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*This graph is adapted from Kempe, C. H.: *California Med.* 84:242, 1956. The single bar designated as "Antibiotics F" represents three widely used, chemically related agents grouped together by the investigator. Strains isolated January-June, 1954.

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Toxoplasmosis, Congenital and Acquired

Ocular Manifestations

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Human toxoplasmosis is a disease of increasing importance which offers a challenge in diverse branches of medicine. The numerous recent publications on the actual and suspected role of Toxoplasma in human disease have aroused widespread interest in the clinical manifestations and the diagnosis of this infection, both in its congenital and acquired forms. Toxoplasmosis now commands the special interest of the pediatrician, the obstetrician, the general practitioner and other specialists as well as the ophthalmologist. In ophthalmology, recent investigations point to this disease as a highly important factor both in infantile and in adult uveal inflammation. Since it poses problems likewise for other specialists, the purpose of this paper is to present a general clinical approach to the subject, with discussion of the systemic as well as the ocular manifestations of the disease, stressing in particular the problem of prevention of the congenital form with its dire consequences. Illustrative cases recently reported[1] are reviewed and new cases reported.

Toxoplasma gondii, a crescentic or arc-shaped organism with one end attenuated and the other more rounded, was first described in 1909 and its pathogenicity demonstrated in mice.[2] American consciousness of this protozoan parasite, however, stems only from 1939 when its role in human disease was first determined by its recognition in spontaneous human encephalitis in an infant.[3] Worldwide in distribution, this cosmopolitan organism is naturally transmitted among many animals and certain birds, and seemingly also to hundreds of millions of human beings.[4] Certainly, the host range among mammals is from the most primitive to the most highly developed. Verified cases of toxoplasmosis in animals have been reported from almost all parts of the world, not only among wild animals such as hares, rats and pigeons but also among such frequent pets as dogs and cats and in domestic animals such as pigs, cattle, sheep, rabbits and chickens. The widespread occurrence of the parasite among animals living in close contact with man provides rich possibilities for infection and is of epidemiologic importance.[5] Cole and his associates[6] established an association between Toxoplasma - shedding chronically infected pet dogs and the occurrence of proved human infection, thus pointing, as have numerous investigators, to animals as a probable source of toxoplasmosis in man. A large percentage of some normal adult population groups shows antibodies to Toxoplasma. A study in England disclosed by the dye test the presence of Toxoplasma antibodies in titers of 1:4 or more in 24 per cent of a sample of the adult population of Sheffield; in veterinary surgeons, abattoir workers and rabbit trappers they were especially high.[1,7] The mode or the multiple modes of transmission, however, remain one of the numerous puzzling features of Toxoplasma as yet unsolved.

Epidemiologic data on human toxoplasmosis indicate that the prevalence of the infection is highest in areas such as Tahiti and the coastal region of Guatemala, low in areas such as Iceland and Alaska, and higher in southern Sweden than in northern Sweden and in the coastal regions of Mexico than at the high altitude around Mexico City. In the United States there are regional differences in prevalence, with the eastern regions possibly showing higher rates than the western areas. Among the Navajo Indians in Arizona the rate is surprisingly low, while it is higher in their dogs. From these data, it appears that toxoplasmosis is more prevalent in warm moist areas than in cold areas or hot dry areas.[8]

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This remarkably indiscriminate organism parasitizes many different types of cells as well as many hosts. Originally, many specific names were given to Toxoplasma from the various hosts, but biologic and immunologic studies indicate that these parasites are members of the same species, Toxoplasma gondii. In the acutely infected host, the parasite is widely distributed throughout the body. It has been found, in the late stages of acute infections, in the blood, urine, feces, milk, saliva, and serous exudates from the conjunctiva of various animals.

Congenital Toxoplasmosis

The most recent reports of investigators warrant the assumption that the congenital form of toxoplasmosis results when a nonimmune pregnant woman happens to acquire an infection which is usually inapparent. Infection of the fetus follows when the resultant parasitemia permits Toxoplasma to establish a nidus in the placenta. Holding this view, Feldman and Miller[9] advanced the hypothesis that the earlier in pregnancy the infection is acquired, the more catastrophic the effect. If the infection occurs early, a spontaneous abortion would result; if in the second trimester, a still birth or premature birth; if in the last trimester, a term birth with varying degrees of residual damage.

The infection may manifest itself in utero, or the infant may appear normal at birth, giving no sign of abnormality until characteristic physical or behavioral changes are observed after a period of days or even months. Active toxoplasmic infection in the newborn infant may produce rash, fever, jaundice, hepatosplenomegaly, convulsions, and encephalomyelitis with xanthochromic spinal fluid.[9,10] Chorioretinitis may or may not be present at birth, but develops in the great majority of the survivors after varying periods of time. Other effects which may accompany the congenital disease, and which not infrequently follow it during infancy and childhood, are hydrocephaly, microcephaly, convulsive disorders and psychomotor retardation. Cerebral calcifications are demonstrated in a high percentage of the cases. In his study of 103 children with the disease, Feldman[11] reported cerebral calcifications in 63 per cent, psychomotor retardation in 56 per cent, hydrocephaly or microcephaly in approximately 50 per cent, and convulsive episodes in about 50 per cent. Chorioretinitis, present in 99 per cent of the cases, was the most frequent finding. In 75 toxoplasmic infants studied by Eichenwald,[11] only 40 per cent had chorioretinitis when first seen, but the percentage increased to approximately 80 per cent when the survivors were subsequently examined.

In 187 cases of congenital toxoplasmosis recently analyzed by Feldman and Miller,[9] the children were four years of age or less in 119 of 176 cases, half of these one year or less; five to nine years in 38 cases, and 10 to 19 years in 19 cases. Most of the mothers were between 18 and 29 years of age. These authors suggested a possible relationship between the young maternal age and an age group of increased susceptibility to the disease and commented that these data could be interpreted as opposing the concept that infected infants often are born some years after the mother has acquired her initial infection. The sex incidence was approximately equal in this series. There were premature births in one fourth of 141 cases of the series, a figure somewhat but not greatly in excess of normal expectation. Some 20 per cent of the premature infants and 7 per cent of those born at term died, a difference in survival no greater than generally expected. In 82 per cent of the cases with associated chorioretinitis, there were lesions in both eyes, the bilateral involvement suggesting that the chorioretinitis results from blood stream seeding. Residual damage varied in degree, although in most of the cases there were detectable chorioretinitis, cerebral calcifications, mental retardation and/or disturbances in head size. Not every infant or child, however, with chorioretinitis or cerebral calcifications has congenital toxoplasmosis. This infection accounts, in general, for no more than half of such cases.

Is it likely that the mother of an infant with congenital toxoplasmosis will produce another such baby? On the basis of clinical and serologic findings, it has been assumed that congenital infection occurs only when the mother acquires the infection during the gestation period. "It appears justifiable," Jacobs[8] observed, "to assert that except under unusual circumstances there is little likelihood of a mother giving birth to more than one toxoplasmic child in separate pregnancies. This is supported by the histories gathered by Eichenwald and Feldman on the mothers of toxoplasmic infants." Summarizing their observations, Feldman and Miller[9] concluded: "The disease occurs as an accidental complication of an inapparent primary toxoplasma infection of

a pregnant female because such infections may be accompanied by parasitemia. In so far as we are aware, all such infants suffer some residual damage, but most survive. The infection may be acquired in any season of the year, and human-to-human transfer is not commonplace. This complication is not repeated in subsequent pregnancies, and it affects more than one offspring only if the reference pregnancy results in multiple births."

A suggestive complicated picture of this type is presented in a case of congenital toxoplasmosis reported in my recent series.[1] The infection was diagnosed when a white infant aged four months was first examined in October 1953. The child was re-examined in March 1956 at the Walter Reed Army Medical Center. At that time, the reaction to the Sabin-Feldman dye test was positive in a titer of 1:65536, the highest ever recorded there, and in the mother the titer was 1:4096. The twin brother of the mother has been under my care for some time with a discrete central macular lesion in one eye of long duration. His reaction to the dye test and the intracutaneous toxoplasmin test has repeatedly been negative.

In considering the disease manifestations that may accompany toxoplasmosis, it is particularly noteworthy that the majority of infections pass unnoticed.[12] Only rarely does a mother recall symptoms of infection, even though she may have given birth to an infant with the disease, apparently transmitted in utero. Feldman and Miller[9] found it impossible to detect any illness pattern during pregnancy suggestive of when the mothers might have acquired their infection because four fifths of the mothers denied having had any illness. It remains largely for the future to reveal adequate means of detecting the disease in the mothers and a method of treatment that will prevent the development of toxoplasmosis in the child.[13] Present therapy, however, seems to offer a beginning if there is any indication of maternal infection during pregnancy and the obstetrician is alert to the possibilities.

The anomalies resulting from congenital toxoplasmosis, therefore, may well be added to the large and growing list of acquired congenital defects that pose a problem in preventive medicine. Ingalls[14] recently stressed that the field of acquired congenital anomalies emerges as of equal stature with genetics itself and should be attacked on a combined front with the threefold forces of laboratory, clinical, and epidemiologic methodologies. He advocated application of the same degree of energy in combating this problem that has been used in conquering diphtheria and smallpox and is being directed at poliomyelitis. "The implication," he predicted, "of all that is known of maternal rubella, syphilis, toxoplasmosis, and influenza; of the effect of thiouracil, lead, or carbon monoxide poisoning during pregnancy; of diabetic, hematological, circulatory, and dietary disturbances; and of traumatic, radiation, and hypoxic diseases of the mother, placenta, and embryo is that many, if not most, congenital anomalies will be eventually brought under control as appropriate scientific studies clarify causes."

Acquired Toxoplasmosis

In contrast to several hundred accumulated cases of congenital toxoplasmosis recorded in the literature, reports of clinical toxoplasmosis acquired after birth are relatively few. The first two well substantiated cases were reported in 1941. Since then, reports indicate that in the proved cases of acquired toxoplasmosis the severity of the illness has varied from a mild, one day febrile illness with local adenopathy and no other distinguishing clinical features to a fatal, widely disseminated infection with a rickettsiosis-like rash, encephalitis, myocarditis and polymyositis.[15] Brown and Jacobs[16] recently reviewed the reported cases and in summation stated that acquired nonfatal toxoplasmosis may be manifested by a relatively mild syndrome simulating infectious mononucleosis, as well as by more severe symptoms grading into those found in the recorded fatal cases.

The acquired infectious disorders caused by Toxoplasma organisms are classified by Siim[5] as typhus-like exanthema, meningoencephalitis, chorioretinitis and lymphadenopathy. The exanthematic form of acquired toxoplasmosis is characterized by a typhus-like illness, often of acute onset, with chills and elevation of temperature to 104 F., preceded in some instances by fatigue and malaise of several days' duration. Typically, a red, nonhemorrhagic, maculopapular exanthema involves the entire body except the scalp, the palms, and the soles of the feet. Appearing at the earliest on the fourth day of the first week, the rash disappears one to two weeks later. A dry cough and pulmonary changes, simulating atypical pneumonia, usually are present both early and later, but may be absent. Symptoms

and signs of myocarditis and meningoencephalitis are frequent complications; there may be lymphadenopathy, but enlargement of the spleen has not been demonstrated. Most cases of this type have terminated fatally, and at autopsy cell infiltration and necrotic foci are present in the heart, lungs and central nervous system, with Toxoplasma-like structures in the myocardium.

A second grave manifestation of the acquired type is meningoencephalitis. Although it apparently occurs seldom, it has been reported from Denmark in a three year old girl, from North Africa, where strains were isolated from three adults, from the United States in two six year old boys, and also from Germany. Fever, delirium, generalized convulsions, lymphadenopathy and a mononuclear pleocytosis featured Sabin's fatal case in a six year old boy, the first to be reported, and at autopsy a meningoencephalitis was present, and the RH strain of Toxoplasma was isolated from the brain. Feldman's case was also in a six year old boy.

The first verified case of acquired ocular toxoplasmosis was reported in 1954 by Jacobs, Fair and Bickerton.[17] Toxoplasma organisms were isolated from an enucleated eye of a 30 year old man with chronic chorioretinitis.

While these three manifestations occur infrequently, acquired toxoplasmosis with a lymphadenopathy as the chief sign is diagnosed with relative frequency. Siim[5] divided this form into febrile lymphadenitis, a nonfebrile form, and a subclinical form. In the first subgroup, the onset may be acute with chills and elevation of temperature to 102 to 104 F., with the fever lasting for two to four weeks or longer and then decreasing by lysis; in the second, the enlarged lymph nodes are often discovered by the patients themselves, or by their mothers; and in the third, the lymphadenopathy is discovered in the course of routine examination.

In this milder nonfatal form, except for the lymphadenopathy the clinical examination is often normal. The enlarged lymph nodes, of hazelnut to walnut size, may be tender during the first weeks of the disease, but are usually painless later. The firm, discrete nodes, with smooth surfaces, are not attached to the underlying tissue. The covering skin is unaffected and does not itch; necrosis or formation of fistulas has not been observed. The lymphadenopathy is often generalized, with swollen nodes present in the suboccipital region, in the neck, in the axilla, and in the groin. It may be, however, that the lymph nodes are affected in one superficial area only. There may be enlargement of the hilar shadows. The spleen is seldom palpable. The clinical course is usually benign, with complete recovery in most instances. The enlargement of the lymph nodes, however, may persist for six to 12 months or longer, and there may be pronounced fatigue over a period of months.

Not only is the great variability of the manifestations of adult toxoplasmosis particularly noteworthy, but also the rarity of its recognition in contrast to the apparently widespread occurrence of the causative parasite among animals throughout the world. Epidemiologic studies have demonstrated that antibodies and skin sensitivity to Toxoplasma rise with increasing age, thus indicating continued acquisition of inapparent toxoplasmosis in the adult population and suggesting rather frequent occurrence of the disease in adults, but with symptoms so inconspicuous as rarely to permit clinical diagnosis. That it may be acquired in adulthood further substantiates the accepted concept that congenital toxoplasmosis is acquired in utero when the infection is present in the pregnant mother.[15]

Unfortunately, the maternal toxoplasmosis which is transmitted to the offspring with such distressing sequelae is usually of a subclinical nature, eluding diagnosis. Nevertheless, detection of acquired toxoplasmosis in pregnancy remains at present the only possible way of preventing the tragic cases of congenital toxoplasmosis in which the severe damage to the brain and the eyes is irreparable and for which no specific therapy has as yet been devised. In pregnant women, therefore, who show evidence of inexplicable fever, lymphadenopathy or excessive fatigue, a thorough examination should be carried out.

Ocular Toxoplasmosis

The commonest ocular manifestation of congential toxoplasmosis is a necrotizing chorioretinopathy, rather extensive in type, usually involving the central area, that is, the macula or paramacular region, and leaving deep scars. As a rule there are multiple foci. Coloboma of the choroid may be present,[18] as in one case in my first series. When the lesion becomes quiescent, much pigment migration and deposition take place. Rarely, anterior uveitis may occur, but in my opinion it is more prevalent in the adult form of the disease. Other ocular changes include microph-

thalmus, pupillary membranes and congenital cataract, all of which could, of course, be coincidental.

Duke-Elder[18] observed that the common infantile type may be associated with a toxoplasmal encephalitis which may be characterized by head retraction, facial palsy, conjugate deviations and absence of the pupillary and vestibular reflexes. Among the sequelae he mentioned hydrocephaly, areas of cerebral calcification, mental retardation and searching nystagmus. Certainly, chorioretinitis particularly in association with cerebral calcification, hydrocephaly or microcephaly, and psychomotor disturbances is highly suggestive of toxoplasmosis, and in the presence of these manifestations, the incidence of serologic confirmation of the diagnosis can be as high as 80 or 90 per cent.[19] It is, in fact, the most important sign for the detection of toxoplasmosis in patients in whom the disease may be suspected as the cause for congenital cerebral damage. Recently, Deutsch and Horsley[20] reported a fatal case in a newborn infant in which the ocular lesions were a prominent feature.

Chorioretinopathy may not be apparent at birth, but the characteristic lesions frequently develop within a few weeks. Although the macular region is most frequently involved, in some instances the lesions are located far out in the periphery of the retina. It may not be possible to see them except under full dilatation of the pupil and most complete funduscopic examination, which in children may be accomplished only under general anesthesia. In my experience, the lesions in a number of cases were in the extreme periphery and difficult to locate.

In acquired toxoplasmosis, the ocular manifestations may be suggestive, but they are not strikingly characteristic. In the proved fatal cases and the reported nonfatal adult cases, only an occasional instance of ocular involvement is reported.[21] Feldman[22] was able to demonstrate Toxoplasma antibodies in only 18 of 140 suspected cases of postnatally acquired toxoplasmic chorioretinitis. The so-called focal choroiditis, according to Woods,[21] is the lesion most frequently encountered. Approximately one half of such lesions apparently are attributable to acquired toxoplasmosis, quite similar lesions being caused by other infectious granulomata, notably tuberculosis and brucellosis. Next in frequency is a generalized granulomatous uveitis, quite indistinguishable in its appearance and course from chronic tuberculous uveitis. Other ocular lesions mentioned by Woods[21] are retinal periphlebitis with vitreous hemorrhages and possibly an acute optic neuritis. He stated that the rare systemic symptoms of acquired adult toxoplasmosis—fever, a generalized lymphadenopathy, nonspecific catarrhal symptoms, occasionally a pneumonitis, hepatitis, an exanthematous rash or a meningoencephalitis, and sometimes a blood picture suggestive of infectious mononucleosis—rarely, if ever, occur in association with ocular lesions. Duke-Elder[18] noted that the disease in the adult "is usually subclinical in its manifestations, but the evidence that it may give rise to a necrotizing chorio-retinitis or a generalized uveitis of a very recalcitrant type resembling tuberculosis in its clinical and pathological characteristics is rapidly growing." McKinney[23] recently reported a case of presumptive toxoplasmic iridocyclitis in an adult with apparent response to specific therapy.

The course of the acquired ocular disease was described in a recent comment in these words: "In verified toxoplasmosis involving the eye there may be a history of acute retinitis or, less often, of uveitis, or the inflammatory process may develop gradually. Characteristically, in acquired, as distinguished from congenital, infections, it tends to become chronic as the involved cells change their role from host to that of phagocyte, with corresponding decrease in multiplication of Toxoplasma organisms and frequently their inclusion in pseudocysts. From these pseudocysts the infection may later become reactivated."[22] Jacobs[8] regarded the brain and the eye as the most frequent sites of persistence of the parasites in animals and probably in man. He observed that possibly because of low immunity in the ocular fluids and tissues, rupture of pseudocysts and proliferation of parasites may occur from time to time, resulting in exacerbations of chorioretinal lesions. Hogan, Zweigart and Lewis[24] recently demonstrated experimentally the persistence of Toxoplasma in ocular tissue.

Diagnosis

The most commonly recognized clinical manifestations of human toxoplasmosis are the results of congenital infection. Even though the clinical picture is more or less characteristic, neither the manifestations of damage to the nervous system, which are most frequent, nor those involving the viscera, such as neonatal jaundice or hepatosplenomegaly, are sufficiently definite to permit a diag-

nosis on clinical grounds alone. The clinical diagnosis must be confirmed by positive serologic tests.[19] Likewise, the clinical features of acquired toxoplasmic infection are by no means characteristic for this disease exclusively. The preliminary clinical diagnosis can be substantiated only in the laboratory "by the demonstration of Toxoplasma antibodies in paired blood samples, and by the isolation in clean laboratory mice or tissue culture of the parasite from blood, spinal fluid, lymph node or muscle biopsies, or from specimens obtained postmortem."[5] Morever, in the absence of a characteristic ocular symptomatology and concomitant systemic manifestations, with no adequate therapeutic trial test, and with no ocular tissue available for isolating or culturing the parasites, the diagnosis of adult ocular toxoplasmosis must rest on various diagnostic tests which reveal an antibody response to the infection.[21]

It was not until 1948 that the dye, skin and complement-fixation tests became available and served to stimulate worldwide interest in Toxoplasma. Recently, Eichenwald[25] discussed the laboratory diagnosis of toxoplasmosis and declared the Sabin-Feldman dye test to be undoubtedly the most useful tool in the diagnosis of Toxoplasma infection. Eyles[13] regarded this test as a milestone in the history of toxoplasmosis of the greatest importance in dealing with this disease, in which it is so difficult to isolate the actual etiologic agent. This test and the titer strength considered diagnostic, additional laboratory procedures, notably the complement-fixation and the toxoplasmin cutaneous tests, and other aspects of laboratory diagnosis will be presented in the discussion by the distinguished pathologist, Dr. James N. Patterson.

Treatment

The difficulty in diagnosing toxoplasmosis and the lack of drugs of demonstrated value have hampered the treatment of the disease. Recently, however, as the role of toxoplasmosis in causing granulomatous uveitis, chorioretinitis, and the syndrome characterized by lymphadenopathy and fever has been more fully realized, animal experimentation has led to the discovery of agents effective against the disease in animals. These drugs give promise of being effective in man, and reports of their use in the treatment of human toxoplasmosis are just now becoming available.

Two groups of drugs offer promising activity: (1) the sulfonamides, the most active of which are the sulfapyrimidines (sulfamethazine, sulfamerazine, and sulfadiazine) and sulfapyrazine; and (2) the 2,4′-diamino pyrimidines, the most active of which is pyrimethamine (Daraprim). Among the sulfones, the antibiotics and other groups, less active compounds have been found.[26]

While they are of value individually, perhaps the outstanding feature of the sulfonamides and pyrimethamine is their synergistic action. In his recent review of the newer knowledge of the chemotherapy of toxoplasmosis, Eyles[26] concluded that these drugs act together synergistically most likely by imposing sequential blocks upon the metabolic pathway involving para-aminobenzoic acid, folic acid, and folinic acid. Because of this synergistic action it is possible to obtain chemotherapeutic effect with much lower dosages than with the drugs individually. This author observed that the reports [23,27] now appearing describing the use of the sulfonamides and pyrimethamine in human toxoplasmosis, while difficult to evaluate, nevertheless appear to indicate that activity against both acute acquired toxoplasmosis and toxoplasmic uveitis and chorioretinitis is becoming reasonably well substantiated. My experience with this therapy adds evidence in support of this observation.

Review of Cases

In a recent presentation,[1] I reported a series of 14 cases believed to be of toxoplasmic origin and discussed the various aspects of the problem of ocular toxoplasmosis. In this series, the diagnostic criteria were a characteristic ocular picture, a careful search for other sources of uveitic infection, and the presence of a positive reaction to the intracutaneous toxoplasmin test and the Sabin-Feldman dye test in each case. In two cases of the series the reaction to the dye test was positive in a titer of 1:32; in six, 1:64; in two, 1:126; in one, 1:128; in one, 1:256; in one, 1:512 and later 1:65536; and in one, 1:16384. In five of the cases the controversial question could be raised regarding the possibility of skin testing causing an anamnestic rise in the dye titer, a subject Dr. Patterson will doubtless mention, along with the titer considered diagnostic, in the discussion of this paper.

In this first series, most of the cases were characterized by an acute flare-up of the disease, particularly in the posterior portion of the uvea, superimposed on previously existing lesions. The patients ranged in age from four months to 70 years; more than half, however, were in the late teens or in the twenties. Nine were females, and five were males. Arrest of the infection and, in 11 of the 14 cases, some improvement in vision resulted from the use of Daraprim and sulfonamide therapy. In a few cases the visual results were dramatic.

The first case of this series illustrates the remarkable response to systemic antitoxoplasmosis therapy during an acute attack of uveitis, with probable salvaging of useful central vision in the one functioning eye. In this case, long-standing recurrent posterior uveitis with binocular evidence of posterior fundal lesions typical of toxoplasmosis has been observed by me since 1949 in a patient then aged 18 with a history of poor vision for 10 years prior to that time (figs. 1 and 2). In January 1957, this patient, after a normal labor, gave birth to her first child. The obstetrician

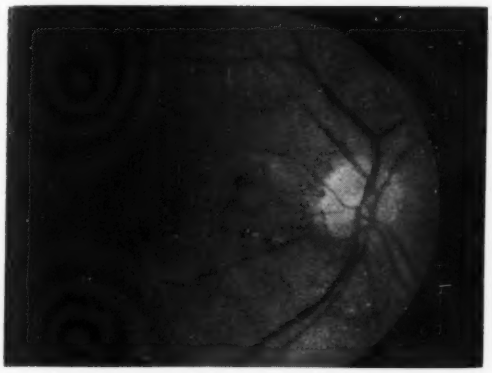

Fig. 1.—This view shows one of the lesions located in the macula of the left eye, active in 1949 and not controlled sufficiently to prevent loss of central vision.

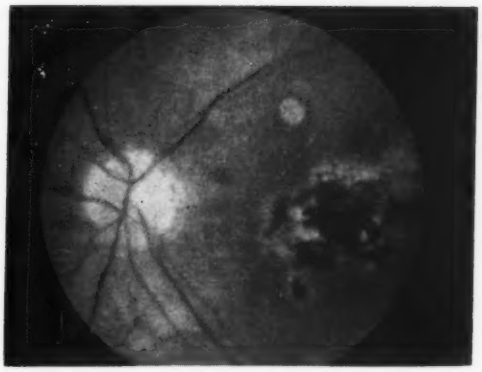

Fig. 2.—Chorioretinopathic scar of minor nature in the left eye resulting from an active process in 1955, controlled apparently completely by pyrimethamine and sulfonamide therapy.

reported that the infant was apparently normal in all respects.

In a second case with prompt response to accepted therapy, a robust 17 year old girl complained in April 1956 of a film over the left eye for several days. The mother had required intravenous feeding much of the time during the pregnancy. In the right eye there were multiple inactive lesions of choroiditis with marginal pigment and in the left eye much vitreous exudate with many fundal scars, two of the lesions being active (figs. 3 and 4). Physical examination, including roentgenograms of the chest and skull, and the usual tests gave negative results except the intracutaneous toxoplasmin test, to which the reaction was strongly positive with perhaps some focal and general reaction also. There was a positive response to the Sabin-Feldman dye test in a dilution of 1:512. Under treatment with Daraprim and Combisul (3) the eye quieted down within four weeks. In July renewed activity in this eye ceased and the following month activation of a lesion in the right eye subsided promptly on resumption of the treatment. There has been no further activation of the lesions in the uveal tract. With this therapy, definite improvement in the emotional pattern was noted in this case and in several other treated cases.

The present series of six cases represents additional instances of ocular involvement of presumptive toxoplasmic origin. The patients ranged in age from three and one-half to 37 years; five were females and one male. In all of these cases the Sabin-Feldman dye test gave a positive result in dilutions ranging from 1:128 to 1:1024.

Report of Cases

Case 1.—A white woman, aged 37, complained in 1934 of impaired vision in the right eye for five months, which had rapidly become worse during a period of three weeks immediately prior to consulting me despite energetic treatment elsewhere. On examination, global injection, a considerable number of flat keratic precipitates, vitreous opacities obscuring a good view of the fundus and some lenticular pathologic changes of a secondary posterior subcapsular type were noted in the right eye. Bare light perception was present in this eye. There was little change in the iris. The left eye appeared normal in all respects. The reaction to the intracutaneous tuberculin test was positive, and old tuberculin therapy was given off and on until the response to this test was negative.

The patient was not seen from 1937 until she returned in 1948. At that time the right eye was white and quiet; posterior synechiae, atrophy of the iris and pronounced secondary lenticular opacification were present, as were good light perception and projection, and macular and color perception. There were a few inactive flat keratic precipitates in this eye. The intraocular pressure was 22 Schiøtz. In September, a combined intracapsular extraction was performed with satisfactory improvement in the eye during several months' observation postoperatively. A quiet but extensive area of chorioretinitis could be made out on the temporal side, midway between the disk and the per-

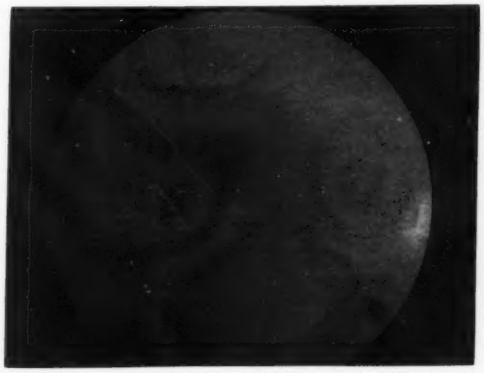

Fig. 3.—Discrete scars of chorioretinopathy in the periphery of the right eye.

Fig. 4.—Extensive scarring to the nasal side of the disk. There was activity in this area during the course of observation. The process quieted down promptly on pyrimethamine and sulfonamide therapy.

riphery. With an aphakic lens, the vision in this eye corrected to 20/50 at distance with a Jaeger 3 at near.

The situation remained satisfactory until 1956 when there was activation of the process in the right eye with a considerable number of vitreous floaters and some bleeding in and around one of the larger lesions temporally. Prior to this episode there had been slight intraconjunctival bleeding in the left eye. Complete laboratory tests gave negative results, and the Rumpel-Leede sign was absent. The intracutaneous tuberculin and toxoplasmin tests gave negative results, but the reaction to the Sabin-Feldman dye test was positive in a dilution of 1:1024. The administration of Daraprim, 25 mg. daily, sulfadiazine four times daily, Sodium Sulamyd drops in the eye and a sulfathiazole ointment on retiring resulted in complete subsidence of the active process within a period of several weeks.

In this case a patient with a monocular lesion had a uveitis in 1934 of the anterior as well as the posterior type requiring cataract surgery. Following a flare-up in 1956, there was complete subsidence of activity on Daraprim and sulfonamide therapy. The question arises as to whether or not there was infection caused by Toxoplasma right from the beginning.

Case 2.—A white girl, aged three and one-half years, was first seen in 1944. There was a history of dancing eyes and poor vision since birth. Delivery at term was normal. The mother stated that the child could not hold up her head and that she had had an undetermined course of fever. An older brother and sister were normal children.

Except for an inclination to a head nod, the general physical examination, including roentgenograms of the skull, gave negative results. In the left eye, there was a pronounced focusing nystagmus with an internal squint of about 35 prism diopters with apparently limited external rotation and greatly increased internal rotation. Funduscopic examination revealed inactive but prominent scars of central chorioretinopathy with much pigment migration and pallor of the disk in the left eye. The reaction to the intracutaneous tuberculin test and the test for brucellosis was negative. Muscle surgery was performed.

The child was not seen again until 1947, when the pronounced focusing nystagmus was still present. The eyes were practically parallel. The vision was 20/200 in the right eye and 10/200 in the left eye with about the same funduscopic findings. Again, the intracutaneous tuberculin test and the test for brucellosis gave negative results.

The patient was seen periodically until 1956. At that time the Sabin-Feldman dye test gave a positive response in a dilution of 1:512, and the reaction to the intracutaneous toxoplasmin test was markedly positive. An operation was performed for nystagmus in which the eyes were placed in the direction of the quick component by resection of the external rectus of the right eye and resection of the internal rectus of the left eye, with much improvement in the nystagmus and perhaps some visual improvement. Therapy with Daraprim once daily and 0.5 Gm. of sulfadiazine twice daily had to be discontinued after a period of six weeks because of a secondary anemia of considerable degree.

At the time of the last examination on Jan. 21, 1957, the vision was 20/200 plus in the right eye and 20/200 in the left eye. The visual fields were markedly contracted, particularly in the left eye, with central scotomata in both eyes. There was great improvement in the general condition, and both to the family and to me there seemed to be improvement in the various nervous manifestations on the Daraprim and sulfadiazine therapy. The bone marrow depression disappeared completely without too much medication.

In all probability, this child had had a toxoplasmic infection from birth. On her record card I had noted in 1948 that toxoplasmosis was to be considered, but at that time I was not well enough informed to make the diagnosis.

Case 3.—A white girl, aged 16, an only child, was first examined in 1939. There had been a loss of vision in the left eye for about one year. Delivery at term had been normal although the mother had been ill during the pregnancy. The child seemed to be normal at birth. On ocular examination, the right eye appeared normal in all respects. In the left eye, anteriorly there were a few more or less quiescent keratic precipitates. It was difficult to obtain a view of the fundus. There were multiple areas of choroiditis in the central region to the temporal side with many vitreous opacities, thinning of the vitreous structure and secondary posterior subcapsular lens opacity. The vision in the right eye was 20/30 plus and in the left eye 10/200. The intracutaneous tuberculin test and also the test for brucellosis gave negative results.

The patient was not seen again until 1956. In the interim, she had married and now had two children living and well, but had had three miscarriages prior to the birth of these children. She complained of nausea, headaches, nervousness and at times emotional disturbances. The right eye showed some scarring to the temporal side with pigment migration rather far out toward the periphery, multiple scars above and much pigment, a considerable number of vitreous floaters and also scars of a chorioretinopathy in the periphery below with much pigment. In the left eye, a mature lens opacity was present with no view of the fundus obtainable. The intracutaneous tuberculin and brucellergen tests gave negative results, but the reaction to the intracutaneous toxoplasmin test was markedly positive. The Sabin-Feldman dye test gave positive results in a dilution of 1:128. The general physical examination, including roentgenograms of the skull, gave negative evidence.

The treatment consisted of Daraprim once a day, 0.5 Gm. of sulfadiazine twice daily, and Sodium Sulamyd drops and sulfathiazole ointment locally in the eyes. Nicotinic acid was prescribed by mouth along with sublingual histamine. There was careful laboratory supervision to guard against bone marrow depression. During the four months since this therapy was begun, there has been considerable improvement in the vitreous opacities in the right eye. The condition of the left eye remains about the same. There is great improvement in the general condition with decrease of the nervous symptoms.

In all probability, this is a case of congenital toxoplasmosis. In 1957, the Sabin-Feldman dye test gave negative results in the two children.

Case 4.—A white woman, aged 35, had a central active elevated lesion of a chorioretinitis in the right eye when she first consulted me in 1953. The left eye appeared to be normal. The intracutaneous tuberculin and brucellergen tests gave negative results. A general physical examination, including roentgen examination of the teeth and one extraction, was carried out. Routine treatment was instituted with the lesion in the right eye quieting down and remaining so until 1957, when some reactivation of the area occurred. At that time, the reaction to the intracutaneous tuberculin and brucellergen tests was negative, but positive to the intracutaneous toxoplasmin test with vesiculation. The response to the Sabin-Feldman dye test was positive in a dilution of 1:512. Daraprim once daily and Combisul twice a day were prescribed. The eye quieted down with no other measures, the lesion became highly discrete, and there was a residual vision of 20/200 minus.

Whether or not this monocular lesion, observed from 1953 to the present time with a prolonged period of quiescence followed by reactivation in 1957, was toxoplasmic in origin is problematic despite the positive reaction to the intracutaneous toxoplasmin test and to the dye test in a dilution of 1:512.

Case 5.—A white man, aged 24, first consulted me in 1930. Posterior uveitis of considerable degree was present, particularly in the left eye with some activity in this eye. The vision in the right eye was 20/100 and in the left eye 5/200. He was seen rather frequently for

a time and then was referred to Dr. William Y. Sayad of West Palm Beach, as he lived in that area. He did not return until November 1956, at which time there was a history of complete loss of central vision in the left eye and vision always having been poor in the right eye. He had had considerable old tuberculin therapy given by Dr. Sayad.

In the fundus of the right eye there were multiple pigmented areas in the macula and paramacular region. Similar but much more extensive lesions with some elevation and heavy pigmentation were present in the left eye. There seemed to be some activity with a considerable amount of vitreous exudate in this eye. The vision was again 20/100 minus in the right eye and less than 20/200 in the left eye, not improved. Both the intracutaneous tuberculin and toxoplasmin tests gave moderately positive results, while the brucellergen test gave negative results. The reaction to the Sabin-Feldman dye test was positive in a dilution of 1:1024.

With the institution of treatment consisting of old tuberculin therapy, Daraprim once daily, Combisul twice daily and a multiple vitamin, the left eye quieted down with complete inactivation of one lesion that was certainly active. In addition to the home treatment, there has been some office therapy with streptomycin and Sodium Sulamyd iontophoresis. The vision has improved little, of course, but there has been some general improvement, particularly noted by the family.

In this case with a positive reaction to the intracutaneous tuberculin test, the question arises as to whether there is present a tuberculoprotein sensitivity, a toxoplasmic infection, or a combination of the two. Certainly, the patient has recently been doing well on the accepted therapies for each, instituted at the same time.

Case 6.—A white woman, aged 21, had a spot on the left eye and poor vision in this eye when she first consulted me in July 1953. Examination revealed multiple areas of choroiditis in the macula and paramacular region, with much pigment in the central lesion, and some pallor to the temporal side of the disk, probably associated with a retinitic optic atrophy. The vision in this eye was 2/200. The right eye was normal with a vision of 20/20. The intracutaneous tuberculin and brucellergen tests gave negative results.

The patient was not seen again until 1956, when the situation was about the same. The reaction to the intracutaneous tuberculin and toxoplasmin tests was moderately positive, and negative to the brucellergen test. The Sabin-Feldman dye test gave a positive result in a dilution of 1:128. The general physical examination, including roentgenograms of the skull and chest, gave negative results. Therapy consisted of Distrycin injections, Daraprim once daily, 0.5 Gm. of sulfadiazine twice daily, Sodium Sulamyd drops in the eyes twice daily and a sulfathiazole ointment at night. The ocular situation remains about the same. Inasmuch as there were no general complaints, there is no yardstick to follow as to whether or not there was improvement in the general condition.

A monocular involvement of chorioretinopathy due to toxoplasmosis possibly may be present in this case, and it may be that a tuberculoprotein sensitivity also is present.

Summary

The clinical aspects of toxoplasmosis in its congenital, acquired and ocular forms are presented, and the salient features of the causative parasite, T. gondii, are reviewed. During the few years that this organism has been recognized as being capable of producing fatal human congenital disease and giving rise to inapparent infections in human adults, the disease has become the concern of the obstetrician, the pediatrician, the general practitioner, the internist, the ophthalmologist and the pathologist as well as the parasitologist.

Congenital toxoplasmosis is a pediatric problem with the responsibility for early diagnosis obviously resting on the obstetrician and the pediatrician. It occurs when a nonimmune pregnant woman acquires a usually inapparent infection, which, through resultant parasitemia, is transmitted placentally to the fetus, often causing irreparable damage to the central nervous system. The obstetrician's alertness to the clinically insignificant symptoms of this infection in the pregnant patient, coupled with prompt therapy, may be the means of preventing the serious and at times fatal manifestations in the infant. Only in this way can sufficient data be accumulated to chart progress in dealing with this acquired congenital disease and its dread manifestations.

The pediatrician must cope with the residual damage of the congenital infection and recognize its origin. The chief benefit to be derived from a specific diagnosis of congenital toxoplasmosis is the good prognosis for subsequent children. There appears to be no adequate evidence that a mother can give birth to more than one child with the disease.

In the acquired form, the illness may vary in verified cases from a mild one day febrile illness with local adenopathy the only distinguishing feature to a fatal widely disseminated infection. Epidemiologic data suggest that the disease occurs rather frequently in adults, but is rarely recognized because the inconspicuous symptoms seldom permit clinical diagnosis. A high index of suspicion on the part of the general practitioner and the internist, as well as the obstetrician, would help to meet the challenge of this form of the disease. The actual recognition of both the congenital and the acquired forms depends upon clinical awareness quite as much as upon diagnostic facilities.

The ocular form of the disease constitutes perhaps its most important human manifestation. The determination of the important role of toxoplasmosis in both infantile and adult uveal inflammation offers an excellent example of cooperative endeavor between the parasitologist, the ophthalmologist and the pathologist. Chorioretinopathy is the commonest manifestation of congenital toxoplasmosis and is the most important sign for the detection of the disease in

patients in whom it may be suspected as the cause of congential cerebral damage. Focal choroiditis is the lesion most frequently encountered in adults. Systemic symptoms of acquired adult toxoplasmosis rarely occur in association with ocular lesions.

Six cases are reported which, added to an earlier series, illustrate the importance of clinical awareness of the disease on the part of the ophthalmologist.

In congenital, acquired and ocular toxoplasmosis, the preliminary clinical diagnosis must be confirmed in the laboratory by serologic tests. The Sabin-Feldman dye test is the most useful diagnostic measure.

Sulfadiazine and pyrimethamine constitute the accepted therapy at the present time. Their synergistic action produces chemotherapeutic effect with much lower dosages than is obtained with the drugs individually.

Clinicians are urged to add their experience with this curious parasitic disease to the accumulating data so that clarification of its puzzling aspects may be expedited.

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409 Citizens Building.

Discussion

DR. JAMES N. PATTERSON, Tampa: There can be no doubt but that Dr. Forbes' paper represents an outstanding clinical contribution in the elucidation of a disease process which not too many years ago was practically unrecognized. It represents, too, the expenditure of a great deal of time and energy over and above that of the routine practice of ophthalmology.

The procedures available in the laboratory diagnosis of toxoplasmosis fall into three main categories: (1) isolation of the organism, (2) serologic tests and (3) toxoplasmin skin tests.

1. Isolation of the organism by tissue culture or animal inoculation and identification by morphologic and serologic studies would provide irrefutable evidence. This method, however, is not practical since material for study is usually not available; and if it were, only a few research laboratories would have the facilities and trained personnel necessary to carry out properly work of this type.

2. The main serologic tests are: (1) the dye test of Sabin and Feldman and (2) the complement-fixation test.

There is no doubt that the best test presently available for the diagnosis of all stages of Toxoplasma infection is the dye test. This test is based on the observation that both the cytoplasm and nucleus of the organism, when incubated with normal serum under conditions of the test, subsequently stain blue upon the addition of methylene blue; whereas, after exposure to antibody-containing serum under the same conditions, only the nucleus takes the stain. The test is technically difficult and requires the presence of a continuous source of living Toxoplasma.

This test becomes positive early in the course of the disease and remains positive for years, although in diminishing titer. Sabin and many other investigators believe that a positive dye test of any degree cannot be disregarded but that it must be correlated with the history, clinical findings and other laboratory data. Others, including Woods, because of the large number of apparently normal persons (Feldman found positive results in 77 out of 144 residents of Pittsburgh) who give a positive reaction to the dye test, the degree of positivity of which rises with advancing age, suggest the following titers be regarded as of diagnostic value:

Age	Titer
Under 10 years of age	1:8 or over
10-19 years of age	1:32 or over
Over 20 years of age	1:64 or over

It is easy, however, to visualize a patient with an allergic reaction to a single ruptured pseudocyst as having a very low titer.

Frenkel reported in 1948 that an anamnestic rise in titer of the dye test occurs after a toxoplasmin skin test.

Feldman, Woods, Jacobs, Fair and Bickerton have not found that such a rise takes place.

The complement-fixation test becomes positive only at a later stage of the disease and becomes negative before the dye test becomes so. Since many cases of toxoplasmosis have never exhibited a positive complement-fixation test, it is of limited value in diagnosis.

3. The intracutaneous test with toxoplasmin is a test analogous to the tuberculin test in method of administration and interpretation. A negative skin test does not rule out the disease since dermal hypersensitivity is usually absent in the acute stage of the disease and in infants with congenital toxoplasmosis before the age of nine months. A positive dermal reaction is usually associated with the presence of antibody.

Much investigation in this field is taking place. A new test based on hemagglutination is being performed by Dr. Leon Jacobs at the National Institutes of Health. It may eventually replace the dye test according to some authorities. Another test, a fluorescence inhibition method, is being investigated by Dr. Morris Goldman at the Communicable Disease Center of the U. S. Public Health Service at Chamblee, Ga.

In summary, one can state that the dye test becomes positive first, the skin test next, and then the complement-fixation test. In most cases of toxoplasmosis both the skin and dye tests will be positive. The complement-fixation test is confirmatory evidence, when positive. As in all laboratory procedures, however, there must be careful correlation of the history, physical findings and all laboratory data.

I again wish to compliment Dr. Forbes on this outstanding contribution.

Dr. Kenneth S. Whitmer, Miami: Dr. Forbes has described so beautifully and completely what is known of the disease that there is little left for discussion. I have followed only two cases of congenital toxoplasmosis in which the serum taken in both mother and child was significant, and in neither of these was the Eli Lilly toxoplasmin skin test antigen available, nor were other laboratory tests such as blood cultures, animal inoculation, complement-fixation tests or spinal fluid examinations made.

In one case both ocular and cerebral manifestations were present, while in the other they were purely ocular. Both patients survived; so no pathologic specimens were available. The ocular disease in both babies was bilateral and central. Both were treated by the drugs currently in use as described by Dr. Forbes, and in both, the residua were large central pigmented chorioretinal scars.

I have not reviewed my other cases of recurrent choroiditis in the light of the dye test, but have been using the skin test antigen for the past year or so on the basis of Frenkel's suggestion that the test is positive if an indurated area of 5 to 6 mm. is present with a surrounding erythematous area of some 10 to 20 mm. I realize, however, that the skin test alone does not diagnose toxoplasmosis.

In the absence of other clinical or laboratory causes of uveitis, the positive skin reactors were treated with Daraprim and sulfadiazine for fairly long periods of time. I have been a little disappointed in my results. One group reported a series of cases of uveitis in which all patients were given a course of Daraprim and sulfonamides, and they concluded that 25 per cent of the patients improved with this therapy. I have watched cases in which focal choroiditis flared up, reduced central vision to 20/100 or so, and then completely subsided with chorioretinal scarring with no treatment at all.

I should like further to point out that, as in all forms of chorioretinitis, the diagnosis of toxoplasmosis is usually presumptive and is made by the exclusion of other diseases, which is often impossible. I appreciate discussing Dr. Forbes' paper very much and am sure it will stimulate all of us when we are confronted with one of ophthalmology's most perplexing problems, the differential diagnosis of chorioretinitis.

Dr. Forbes, closing: I wish to thank Dr. Patterson and Dr. Whitmer for their excellent discussions.

I agree with Dr. Whitmer that the diagnosis of toxoplasmosis is somewhat presumptive and that other causes of chorioretinitis should be carefully excluded. Also, I concur in Dr. Patterson's report on the complement-fixation test. The reaction to this test is inconstant, it comes on later, it disappears earlier, and it is not persistent.

An important diagnostic point is the therapeutic test. The routine Daraprim-sulfonamide therapy is tolerated in a large percentage of cases of chorioretinitis without untoward effect. At the outset Daraprim, pyrimethamine and the sulfonamides were prescribed in fantastic doses, but my experience has led me to conclude that over the long course the proper medication is 25 mg. of Daraprim daily with a moderate dose of sulfonamides. Over a long period, the patients tolerate this dosage well. The one case of folic acid deficiency in my series was handled without difficulty. There have been some reports in the literature of severe reactions from the accepted therapy, but the wise course, in my opinion, is to take it easy and remember that this therapy will have to be continued over a long period.

One particularly noteworthy point is that in order to prevent a possible anamnestic increase in titer of the dye test by the intracutaneous skin testing, the blood for the dye test is collected before the time of the skin testing.

Doctor: Your Opinion Is Needed

For the purpose of continuous improvement of The Journal of the Florida Medical Association, there is a questionnaire on page 277 of this issue to which each member of the Association should pay particular attention.

There is a place in the questionnaire for your opinion—on original articles, editorials and commentaries, news items, book reviews and other subjects.

It is urgently requested that you spare a few moments to fill in and return this questionnaire. It is your opinion that will guide The Journal into greater service to its readers.

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Optimal Timing in Elective Pediatric Surgery

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Any patient in need of elective pediatric surgery should be seen, by the surgeon, at the earliest possible time for individual evaluation. Though certain generalities can be made as to optimal age for surgery, it is conceivable that interval therapy of varied nature might well facilitate definitive repair. Surgical correction might, in some instances, be carried out at an even earlier date than is generally suggested. Needless to say, the child should possess sufficient vitality to withstand surgery. He should have a satisfactory blood picture; be free of any associated infection, jaundice or dermatologic problem; and be of satisfactory weight. The abnormality and the reaction of the family to the situation must also be fully evaluated. Whenever possible, correctable abnormalities should be treated in the preschool period. The child may then participate in various activities and be free of ridicule from playmates. Further, he will avoid loss of school time, especially when prolonged stage procedures are necessary.

Hemangioma

Hemangiomas must be carefully individualized and evaluated early in life if the proper therapeutic course is to be decided upon. True, many will regress; equally true, many will deform, or destroy vital structures, facial features, and even the patient himself. If the hemangioma is small, doing no harm by its presence, or is obviously decreasing in size, certainly no therapy is advocated. These lesions are, however, treated at the earliest age seen if they are increasing in size, or are prone to ulcerate, bleed, or become infected. One is at times justified in waiting six to 12 months only if the patient is closely supervised and the family fully cooperative. Needless to say, there is great esthetic benefit from removal of an unsightly lesion. In the ultimate course of possibilities, though granted to be remote, malignant change is avoided.

From the Department of Surgery, University of Miami School of Medicine, Miami.

Exhibit presented at the Eighty-Second Annual Meeting of the Florida Medical Association, Miami Beach, May 14-16, 1956.

Nevus

There is a variation as to the ideal age for correction of nevi, with special reference as to location, extent and exact nature. Generally, nevi are corrected at two to six years of age. All nevi which are subjected to chronic irritation, showing evidence of growth, increased vascularity, ulceration, change in color, or infection, should be removed. By removal, the presence of malignant disease will be ruled out and the possibility of ultimate malignant change will be eradicated. The appearance is improved by removal of these disfiguring lesions.

Inguinal Hernia

Inguinal hernias in infants and children should be repaired as soon as possible after they are discovered unless specific contraindications, such as prematurity, exist. While inguinal hernias may occasionally obliterate during the first few months after birth, this outcome should not be anticipated. The incidence of incarceration during the first year of life, with its serious implications, far exceeds the possibility of spontaneous cure.

Umbilical Hernia

Spontaneous obliteration of a small umbilical hernia is so frequent and incarceration is so uncommon that elective repair does not seem warranted unless the hernia persists after the age of one year. When a large hernia results in considerable irritability of the infant, elective repair should be performed sooner.

Hydrocele

Most of the hydroceles encountered in infancy will undergo spontaneous regression and will not require surgery. Surgical treatment should be considered if the mass is large and tense enough to cause discomfort, or if the hydrocele persists after the first year of life. If an accompanying hernia is discovered, the operation should not be delayed.

Undescended Testicle

The incidence of sterility is small and almost the same when one or both testicles are normally in the scrotum; therefore, the advisability of orchidopexy for unilateral cryptorchidism becomes a serious question. Bilateral cryptorchidism has better than a 90 per cent chance of sterility and should receive surgical attention if conservative measures fail. Orchidopexy is performed after the age of four years and always before the age of 10 if the probability of sterility is to be averted. Surgery also may be required to avoid trauma to an inguinal testicle or to correct an associated torsion of the cord. The relationship between cryptorchidism and malignant disease is unconvincing. Early surgery with orchidopexy is indicated when there is an associated hernia.

Hypospadias

Repair of hypospadias is generally initiated at four to five years of age; however, if there is a severe ventral curvature or underdevelopment of the penis of considerable degree, the first stage may be carried out at two years of age. This early repair, in the latter instance, will allow unrestricted development during the early growth years. Objectives in surgical intervention are: the release of ventral curvature; repositioning of the meatus; normal urination in the standing position, with a normal stream; normal intercourse and insemination. Of tremendous psychic value is the restoration of normal appearance and possible correction of incontinence and enuresis. Surgery at this age is facilitated by the presence of more working tissue, thus allowing a definitive, final type of repair. Undue mental anguish is avoided, especially the psychic trauma during school years. Further, priapism, which may complicate the surgery, is easier to avoid early in life. Of import also is the associated factor of impotency, which may possibly be avoided if surgical correction is carried out early. When the meatus is at or ñear the glans and there is minimal or no ventral curvature, no surgery should be performed.

Epispadias

In correcting epispadias, surgery is directed toward the correction of the dorsal cleft and the retraction of the penis. This is generally carried out at four or five years of age. The incontinence may be helped, and great mental satisfaction can be afforded the patient.

Exstrophy of the Bladder

Ureteral diversion is generally carried out at about two to four years of age and excision or revision of the bladder at four to five years of age. The objective in children with exstrophy of the bladder is to prevent recurrent, ascending infections of the kidney and an untimely death due to pyelonephritis. Surgery will eliminate the sensitive, bleeding, exposed mucosa; the urinary incontinence may be helped and the urinous odor avoided.

Thyroglossal Cyst, Sinus or Fistula

Correction of a thyroglossal cyst, sinus or fistula should be delayed until after two years of age unless a complication necessitates earlier intervention. Endotracheal intubation in early infancy is discouraged for elective procedures because of the increased incidence of postoperative laryngeal morbidity. Surgery should not be postponed too long, as there will be recurrent episodes of infection and troublesome drainage. These complications tend to add to the scarring and also to the difficulty of final corrective surgery.

Branchial Cyst and Sinus

Surgery for a branchial cyst and sinus should be carried out after one or two years of age, unless the size or symptom complex necessitates earlier intervention. Varied vagal symptoms such as vomiting, pallor, and uneasiness may be noted. There is always the possibility of recurrent inflammation and infection, especially at the time of an infection of the upper part of the respiratory tract. The persistent or repetitious discharge of mucus may be troublesome. The possibility of malignant change likewise should be borne in mind.

Cystic Hygroma

Surgical extirpation of a cystic hygroma should be carried out especially early in infancy if there is massive involvement, with difficulty in swallowing or breathing, or if there is rapid increase in size due to hemorrhage. Compromise of vital structures or infection may justify earlier intervention. Aspiration may well tide the infant over a critical period while awaiting more satisfactory conditions. Generally the child should be at least three or four months of age, or preferably, about two years of age prior to correction.

This rather extensive surgery is better tolerated and the anesthetic is more safely administered after the age of two years.

Torticollis (Wryneck)

Generally, one may allow three to six months for all possible chance of spontaneous improvement or correction of wryneck. Repeated examinations should be made, however, and the repair carried out at the age of six months, or earlier, if the deformity is severe or the distortion is becoming progressively worse, with increasing facial asymmetry. The objective of early surgery is to prevent distortion of cervical and facial bones and pronounced shortening of skin, fascia and muscles in the course of growth. An early repair will prevent a permanent deformity by avoiding bony distortion over the many years of growth and eliminate the typical slanted deformity and asymmetry of the face. Freer movement of the head is allowed. If a definite deformity has occurred, optimum conditions for restitution of facial and cervical structures will be established.

Megacolon

The infant with congenital megacolon will usually show signs of constipation, abdominal distention and partial intestinal obstruction from the first days of life. When the condition cannot be controlled medically during the early months, a temporary colostomy may be indicated before a curative operation is performed at the age of one year or older. Usually the aganglionic segment at the rectosigmoid and colon is resected with restoration of intestinal continuity at a single procedure.

Polyposis of Colon

The dangers of malignant degeneration, hemorrhage and intussusception are such that children with diffuse polyposis are best treated by a partial or complete colectomy. The magnitude of the operation makes it too risky in the first few years of life. Carcinomatous change is unlikely at this time. Ideally, the surgery should be delayed until the child is six to 10 years of age.

Bronchiectasis

Most children with bronchiectasis respond well to medical therapy. Surgery is carried out in the pediatric group when conservative measures fail, and if the diseased tissue is reasonably well localized. Foreign bodies and bronchial anomalies rate high along with pneumonia, allergy and sinusitis as the etiologic factors in the bronchiectasis of childhood. Surgery, if necessary, can be performed at any age.

Pectus Excavatum

Mild cases of pectus excavatum do not need surgical correction. In severe instances there will be compression of the mediastinal viscera and esthetic considerations. Dorsal kyphosis is reversible if the condition is treated in childhood. Surgery should be delayed until the child is three to five years of age.

Patent Ductus Arteriosus

Although a number of children with a small patent ductus would live long, normal lives, the risk of surgery is less than the risk of possible complications if the condition remains untreated. When there is a bacterial endarteritis, cardiac failure or retarded development, the surgery becomes more imperative regardless of the child's age. Surgery is contraindicated when the ductus is compensating for another cardiac anomaly. Whenever possible, the operation should be performed between the ages of three and 10 years.

Coarctation of the Aorta

The over-all poor prognosis of untreated coarctation of the aorta makes surgical correction highly desirable. Except in those unusual instances of uncontrollable cardiac failure in infancy, the operation should be postponed until the aorta has developed sufficiently to assure adequate patency in adulthood. Surgery after the age of nine is recommended.

Tetralogy of Fallot

A high mortality and the unpredictable result make surgery for the tetralogy of Fallot in the first three years of life undesirable. Good results require continued adequate patency of the vascular anastomosis or valvulotomy as the child grows.

Cleft Lip

A cleft lip should be repaired as soon as possible, even within 48 hours after birth, if the general condition of the infant allows. If not, a three to six week interval may be allowed for satisfactory improvement. In double clefts of the lip, repair is often made somewhat later, as this procedure is of greater magnitude. Early repair of a cleft lip will facilitate feeding and will do much to relieve the anxiety and embarrassment of the

parents at the earliest possible time. Establishment of anatomic position will allow a more normal growth and development, with the best possible restoration of the lip and associated nasal deformity. Pressure of the repaired lip will narrow an associated cleft of the palate and allow the development of a more normal dental arch. Repair will help to control infections of the upper part of the respiratory tract, especially when there is an associated cleft of the palate.

Cleft Palate

The optimum age for repair of a cleft palate is generally 18 to 24 months, although a satisfactory repair may, in some instances, be carried out as early as nine months of age. The palate should be repaired before any definitive speech patterns have been formed; however, there must be adequate development to insure a proper surgical correction. Further, at this age, the child is a better anesthetic risk. Proper palate repair will provide velopharyngeal closure and assist in the separation of the oral and the nasal cavity. The repair will prevent foreign bodies from entering the nasal cavity; provide better hygiene of the mouth, nose and middle ear; allow the child to eat better; diminish upper respiratory tract and aural infections, thus preserving hearing; make the development of normal speech patterns more probable; improve ultimate dentition and facilitate any dental correction.

Syndactylism (Webbed Fingers)

Syndactylism is generally corrected at about five years of age, with surgery being carried out sooner if the deformity is severe and interfering markedly with the development or function of the fingers. Earlier surgery may be carried out if the joints do not coincide or the fingers are held in a compact group. If there is free movement of the fingers or a short skin web, it may well be satisfactory to allow some delay. The ultimate aim is to provide normal function of the fingers and to allow normal growth and development. If surgery is carried out at too early an age, even a minimal amount of scarring in a young infant may result in distortion of considerable degree in these early years. Further, at about five years of age, better delineation of structures and circulatory conditions allows a more satisfactory element of surgical safety.

Ptosis

Four or five years of age is generally the ideal time for correction of ptosis of the upper eyelid. At this age, when necessary, there will be adequate fascia lata for repair. The child will be a better anesthetic risk. Needless delay of correction may well result in poor vision or severe photophobia, from which the patient may never recover.

Prominent Ears

Prominent ears should be corrected at five or six years of age. It is extremely important to avoid ridicule and psychic trauma to the child in his early school years. Surgery at this time will not interfere with growth or development of the ears. A general anesthetic can be administered more satisfactorily and safely at this age.

Agenesis of Ears

Repair should be delayed in instances of agenesis of the ears until the child is five or six years of age, or even postponed until adolescence. The first stage, however, such as positioning of an ear segment, may be carried out at two or three years of age. The reconstructed ear does not keep pace with growth of the child and must be made of adult size at the outset. Normally, there is little further growth of the ear after eight or nine years of age. The best reconstruction of the ear will be obtained if surgery is delayed and one is not pressed into an earlier repair by the insistence of understandably anxious parents. Should the repair be carried out at too early an age, valuable tissue, essential for the best final results, may be needlessly sacrificed. It is believed that it is absolutely impractical to consider multiple total ear reconstructions during the growing years, but rather, construction of one definitive ear at the optimum time. Needless to say, absence of an ear is more noticeable in male children and reconstruction more important to them. Corrective surgery to improve hearing is generally carried out at two years of age in bilateral agenesis and at four to five years of age in unilateral agenesis.

Summary

While every patient should be given individual consideration, nevertheless, there may be an optimal age for the best result in elective pediatric surgery. An early surgical opinion and proper timing are stressed.

1006 Huntington Building (Dr. Zaydon).
1242 duPont Building (Dr. Davis).

To Catch a Thief

THOMAS G. DICKINSON, M.D.
SARASOTA

There is a thief in our midst who all too frequently mingles unrecognized in our society and hence goes unapprehended. He is no respecter of race, creed, color or social position. So adroit is he in his ways that he often takes from us—painlessly, silently, but completely—our most cherished possession, our eyesight. His victims all too late discover they have passed the point of no return into the abysmal ink of blindness. His name is Glaucoma.

We as physicians can and must help. The responsibility for the diagnosis and management of ocular disease has by common consent long been left to the eye specialist. This system might be satisfactory if the more serious progressive ocular problems were promptly recognized and referred for care, but all too often they are not.[1] This is especially true of chronic glaucoma, in which adequate therapy depends upon early recognition. At least 20,000 persons, 15 per cent of the blind population in this country, are totally blind from glaucoma, and an additional 150,000 are blind in one eye.[2] Of greater importance are the estimated one million persons, approximately 2 per cent of persons over 40 years of age in the United States, who have glaucoma and do not know it.

For the sake of illustration, we can oversimplify glaucoma into acute and chronic types. The acute type is manifested by the violent, painful, sudden attack with nausea, vomiting and rapid loss of vision, a surgical emergency. The chronic type is characterized by the slow, painless, insidious but relentless loss of the peripheral field of vision, terminating in blindness. Regardless of type, in most cases there is the common sign of increased intraocular tension.

Reasonably accurate tension readings can be obtained with any one of a number of instruments. The development of the Berens-Tolman ocular hypertension indicator, however, has greatly facilitated the procedure for the estimation of intraocular tension by the general physician or the physician limited to specialties other than the eye. This small instrument costs only $12, is not delicate, and hence not as easily damaged as the more complicated tonometer, and gives a statistically proved, accurate indication of the intraocular tension.[3] The procedure is simple and takes only two to three minutes during the general physical examination. It can be as conveniently set up as the sphygmometer. How often do we order a routine roentgen examination of the chest to rule out tuberculosis or tumor; yet there are several hundred negative results for every new case detected. Serologic examinations for syphilis are routine for every hospital admission, and there are only about 30 positive results for every 1,000 samples examined. These 30 positive reactions include all the false positives and repeat responses to examinations performed in known cases. There were in Florida in 1955 only 151 new cases of syphilis per 100,000 patients, in contrast to 2,000 cases of glaucoma in every 100,000 persons over the age of 40.[4]

These data suggest that routine tonometry on persons over 40 may detect a higher percentage of physical abnormalities than some other procedures routine in the physical examination. Any physical examination lacking the determination of the blood pressure is believed to be grossly incomplete, but consider the difference in the end result by missing a case of hypertension and a case of glaucoma. Therapy instituted early in a patient with hypertension is less likely to modify the end results than early treatment in glaucoma. In the latter, a diagnosis a few months earlier may prevent severe irreversible disability.

Routine tonometry must become a part of the general physical examination before the one million undiagnosed cases of glaucoma can be detected—before the thief can be caught.

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Rapport in Medicine

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Rapport, probably, is as important a factor towards success with a patient as any attribute that may be brought to the practice of medicine. When a harmonious relationship exists between a physician and a patient, the patient has confidence in the physician and cooperates with him more easily. Sometimes rapport is secured easily, but usually it is attained after considerable effort. Consequently, the physician must be prepared with the tools necessary not only for its achievement but for its sustainment as well.

How is rapport secured? And how is it maintained? It is secured primarily by means of certain attributes which should be part of the physician. It is maintained with interviewing technics and by consideration and skill in the physical examination. It is strengthened when the physician demonstrates leadership during visits, special tests, therapy and convalescence and in dealing with the patient's family. At whatever point, the watchword is "do not offend."

The Physician

The importance of the attributes of a physician warrants dealing with them first.

Few physicians are physically attractive in the Hollywood sense; not all physicians are tall, dignified individuals, greying at the temples. Fortunately, there are positive personal features over which all physicians have control — cleanliness, neatness, simplicity of dress, a dignified carriage and a calm manner of speaking. These qualities are important because they instill confidence. Though desirable, a good physique is not essential to success in medical practice.

The personality of the physician counts and, if favorable, will have a favorable effect on his patients. If his face and speech will convey kindness, understanding and sympathy, the confidence engendered at the time of introduction to the patient will be nourished.

Wide interests and inquisitiveness about many aspects of life are helpful. Since much of medicine is scientific, and inquiry is the basis of scientific knowledge, it is to be expected that physicians will be of inquiring mind. Not all are as inquisitive as Ehrlich was, nor are all able to probe as well as he did; yet only through inquiry can the physician secure that general fund of knowledge which will permit him to deal with people of different interests.

During sickness anxiety takes its toll. It would be well, therefore, if a willingness and readiness of the physician to be helpful is easily discernible to the patient. If, in addition, the physician manifests a strong interest in his illness, the patient may be quieted and will be more easily started towards recovery.

The favorable reaction of his patients to his warmth will increase a physician's self confidence and help him develop what Sir William Osler often pointed out, namely, a high degree of equanimity. When a physician attains a state of calmness, he is not thrown off balance by little disturbances and only rarely by big ones. He is then infrequently incapable of carrying out his work and its responsibilities.

The Interview

The art of interviewing is common to most professions, but even the experienced interviewer who has studied interviewing technics finds he could expand his knowledge. Since historical information contributes largely to an exact diagnosis, the medical interview frequently has been designated as the most important part of the examination of a patient. Enough time for a thorough and satisfactory interview, therefore, must be allotted to every new patient.

The patient should be comfortable in a pleasant office setting. Expensive furniture is not necessary, for good taste is the determining factor. If the physician is not gifted in interior decorating, he should secure the advice of someone who is.

The physician should "set the stage" for the interview. He might begin with a statement on a timely subject of interest to anyone. Another good idea is to begin with something worn by the patient. Of course, it helps the physician to learn something about the patient beforehand. It would not be good to talk about Shakespeare to a boxer unless he is another Tunney, and it would not be wise to discuss a controversial subject with someone who has fixed ideas on the subject and might be disturbed by discussing it. Nevertheless, it is

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advisable for a short time to "talk about" some subject the patient understands before taking up "the difficulty." The physician's purpose in "setting the stage" is to put the patient at ease so that he will feel free to tell a complete story of his illness.

The physician should be an informal teacher. The patient may not understand the importance of an interview and why much time is sometimes necessary. He should be told how a physician conducts an examination and how information secured during a satisfactory interview can contribute to a diagnosis. Why complete notes are necessary should be explained. The patient should understand the legal as well as the medical implications of complete records. In fact, a patient is more apt to return to a physician if he knows that the physician possesses a complete record of his case; moreover, he will feel an inner satisfaction in knowing that his physician is thorough. Such a physician is less frequently sued. The careful education of a patient is a practical investment, but advisable mainly because it stimulates a better understanding between the physician and his patient.

A physician cannot afford mental pigeonholing. Patients smell out moral pigeonholing or prejudice of any kind. Still the physician should not accept all that is related as if he had blinkers. He should watch for chronologic gaps, inconsistencies and possible concealment of what may be important information. He should listen carefully and critically and observe the patient as he tells his story; how he carries himself, how he speaks, how he uses his hands. Much information may be secured from observation alone. During an interview the physician should be as observant as Sherlock Holmes.

Questions should be handled judiciously. During the interview the patient "has the floor," and the physician should say as little as possible. In order to keep him to the point, it may be necessary to direct the interview at some point. Unnecessary digression wastes time and, what is worse, often confuses the story. Questions are asked tactfully as well as sparingly. One does not ask "How much whisky do you drink?" or "How many abortions have you had?" It is better to substitute such words as miscarriages and beverage even to patients in whom abortions and whisky are commonplace.

Emotion or emotional overtone in the telling of a story is important. A widow may be unconsciously seeking sympathy, a young woman may be reacting to a broken engagement, a family man may have lost his job. On the other hand, the patient may be physically as well as emotionally ill. If emotion interferes with the telling of a coherent story, the physician should carefully help the patient return to "a position" more favorable to the telling of a coherent story. If emotional overtones becloud a patient's story, the physician must be considerate but especially careful of his interpretation.

The purpose of an interview is to secure all available historical facts concerning the illness of a patient. The skill in keeping the patient "to the point" without losing rapport is in the art of interviewing.

The Physical Examination

From the standpoint of maintaining the rapport achieved during an interview, the physical examination is not merely a series of physical maneuvers. The attitude of the physician and his skill are important. If rapport is retained, the patient is relaxed and cooperative, contributing to a more revealing examination.

The patient should be told how the physical examination will be made, in order to offset surprise or offense. A pleasant tone is helpful, and, in the case of children, a soothing tone may be employed. A sharp tongue or a brusque manner can destroy rapport as easily as rough handling. The presence of a near relative should be requested during the examination of a female patient if a nurse is not available, and unnecessary exposure should be avoided in the case of a male as well as a female patient. In examining the pelvis of a virgin, the rectal route should be selected unless it is inadequate. When skill tempered with consideration guides the physician in a physical examination, rapport is retained, and physical findings are easier to elicit.

Leadership

Leadership is important during the period of special tests, therapy and convalescence and in dealing with the family of the patient.

If facts secured from the interview and physical examination are not contributory to a diagnosis, or if confirmation is desirable, special tests are required. Why they are necessary, then, should be explained, and it should be clear that only tests which can be most revealing were chosen. The patient should feel assured that there will be no unnecessary medical costs and

should understand the basis on which he will be charged. It is regrettable to lose a patient after rapport has been established, and it is distressing when an outstanding bill strains a physician-patient relationship. Even if the physician has not mentioned the bill, the patient may hesitate to report for another appointment. With suitable leadership, the patient will keep appointments, tests will be made, and the results of good medicine will ensue.

Certain therapeutic procedures need detailed directions while others require little instruction. Some instruction, nevertheless, always contributes. Directions should be clear, and possible untoward reactions should be pointed out. Medications should be judiciously chosen and dosage gauged with care. Even a small dose of phenolphthalein can be irritating. To a sensitive patient 5 grains of aspirin may produce ringing in the ears while to another 20 grains may be insufficient as a sedative. Patients appreciate physicians who treat with care, who explain prescriptions, and who suggest a telephone call if questions arise or if untoward phenomena develop. Regardless of the therapeutic regimen, however, the patient should feel that what is being done is helping him recover from his illness. This objective is also accomplished through leadership.

A convalescing patient should feel that his physician's concern about him is sustained. Proper supervision may shorten a period of convalescence, and often there is need for special care. Even if no care is required, a sincere telephone call works wonders. A leader is continually interested in those who depend on him.

The family of a patient is always involved in his illness, so that the physician should try to establish rapport with close relatives. Actually, he should seek out at least one that may be relied upon. Close relatives can be helpful medically as well as psychologically. A wife or mother may have to do some nursing, while another relative may be able to take over some of the responsibilities of the patient, thus relieving him of possible worries. If death is inevitable, it is good to consult first with the reliable member of the family. Such news always needs wise handling. It is better if preparations — psychologic, religious and economic — can be made. Regardless of the medical status of the patient, he benefits when his family cooperates with his physician. To secure such cooperation the physician again must exhibit leadership qualities.

Summary

Rapport is necessary to the success of a physician-patient relationship. It should be secured as early as possible and retained throughout the interview, physical examination, period of special testing and period of therapy, and also when one deals with the patient's family. With physician-patient rapport the facts necessary for a diagnosis are obtained more easily, and therapeutic measures are carried out more successfully. If such rapport deteriorates, the patient does not benefit from all the aspects of good medical care.

Jackson Memorial Hospital.

Scientific Papers, Exhibits and Films Requested for Association's Annual Meeting

The Scientific Work Committee of the Florida Medical Association has requested that members of the Association desiring to apply for places on the scientific program of the Eighty-Fourth Annual Meeting contact Dr. George T. Harrell Jr., Chairman of the Committee, College of Medicine, University of Florida, Gainesville.

The scientific program will be divided into three phases—papers, exhibits and films.

Members desiring to present papers on the program of the Scientific Assemblies should submit an abstract of about 50 words on the subject they plan to discuss. For places on the scientific exhibit program, a photograph or sketch of the exhibit together with a brief description of the subject should be submitted. As for films, a short description of the content is necessary. Films should not be more than 20 minutes in length.

Dr. Harrell has announced that the deadline for submitting applications is November 1. He and his Committee will meet in Gainesville on November 16 to select the papers to be presented and the exhibits and films to be shown.

Serving with Dr. Harrell on the Scientific Work Committee are Drs. Franz H. Stewart and Donald F. Marion, Miami; Dr. Richard Reeser Jr., St. Petersburg, and Dr. Gretchen V. Squires, Pensacola.

ABSTRACTS

Protein Bound Sulfhydryl and Disulfide Groups in Squamous-Cell Carcinoma of the Uterine Cervix. By Alvan G. Foraker, M.D., and William J. Wingo, Ph.D. Am. J. Obst. & Gynec. 71:1182-1188 (June) 1956.

To obtain additional information bearing on the problem of growth in the uterine cervix, protein-bound sulfhydryl and disulfide groups were studied in 27 cases of squamous cell carcinoma of the uterine cervix and three cases of intraepithelial carcinoma. These were compared with biopsies of non-neoplastic cervices. The results showed: (1) Sulfhydryl groups, related to various phases of cell metabolism, were found in endocervical glandular epithelium, and in all viable squamous cells, whether occurring in epithelium of the portiovaginalis or in intraepithelial carcinoma. Sulfhydryl groups were also found in regions of neoplastic and non-neoplastic keratinization. (2) Disulfide groups, related to cell keratinization, were found in keratinizing surface squamous cells, in epithelial pearls of squamous carcinoma, and in keratinizing neoplastic cells.

A Statewide Program for Hospitalization of the Indigent. By H. Phillip Hampton, M.D. J. A. M. A. 162:630-632 (Oct. 13) 1956.

Care of the poor is a measure of civilization, but indigency must be recognized as a disease, the end result of several causes—economic, sociologic, medical, and political. The judicious use of aid may relieve suffering and perhaps help to remove the cause of indigency, but indiscriminate welfare programs, especially politically inspired, will be insidiously destructive of initiative and create more dependency. The treatment of indigency must be specific; a panacea will lead only to addiction. The goal of successful therapy must be rehabilitation to independence.

With this generalization, Dr. Hampton outlines the specific program in Florida, where he is chairman of the State Advisory Council on Hospitalization Service for the Indigent. The provision of hospital care for the indigent in this state has been a responsibility of the individual county governments, but the unevenness of budgeting and frequent evasion of responsibility have made the county line, for some patients, a barrier to good medical care. Recent legislation has made it possible to initiate a program for hospitalizing the acutely ill indigent by creating a state and county matching fund out of which payments can be made directly to hospitals for the cost of caring for certified indigents. Further decisions will have to be made concerning outpatient care for the indigent and compensation to physicians for indigent medical care. The Florida Medical Association has authorized a foundation fund to promote graduate medical education in hospitals, provide outpatient care for the indigent, and encourage better medical care throughout the state.

Rehabilitation to independence must be the primary purpose of medical care in order to eradicate effectively the disease of indigence, Dr. Hampton concludes. Intelligent administration of indigent medical care programs by cooperative effort of the medical profession will provide opportunity for rewards far beyond the medical service rendered.

Study of Respiratory Liver Metabolism in Surgical Patients. By H. Clinton Davis, M.D., Irwin S. Morse, M.D., Edward Larson, Ph D. and Mark Wynn, M.S. J. A. M. A. 162:561-563 (Oct. 6) 1956.

Liver succinoxidase, oxygen-quotient (QO_2) determinations were made on 10 patients undergoing surgery for gallbladder, colon, or pancreatic disease or peptic ulcer; four patients with obstructive jaundice had liver function studies in the course of their preoperative evaluation. Values suggested slight impairment of in vitro activity of the enzyme system in the presence of obstructive jaundice in comparison to an apparently normal liver. The concept of performing direct physiologic studies on human tissue is believed by these authors to be of possible value just as it has been in laboratory animals. They observe that the clinical physiologist could well fill some of the gaps in the understanding and assessment of altered metabolism.

Members are urged to send reprints of their articles published in out-of-state medical journals to Box 2411, Jacksonville, for abstracting and publication in The Journal. If you have no extra reprints, please lend us your copy of the journal containing the article.

Medical Education in Florida

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Progress Report: University of Miami School of Medicine

HOMER F. MARSH, PH.D., DEAN

The School of Medicine begins its sixth year in September 1957. The five years since its initial opening in 1952 have been busy ones. There have been many rewarding accomplishments, and there have been a number of situations harrassing and embarrassing to the School's Administration and Faculty. Presumably, this is a necessary part of "growing-up" to be faced by any newly organized medical school although some of the situations are highly confusing of background and necessitate a dilution of effort and energies which could be better spent in other directions. The present status of the School has been achieved through adherence to certain basic principles and in the exercise of patience and a sense of humor.

A sketch of the status in 1952 will serve as a reference base for further comparisons. As the School opened, a faculty component of two full time anatomists, two full time biochemists, and a practicing psychiatrist who gave voluntarily of his time; a class of 28 students; the writer as Associate Dean; and eight cadavers; constituted the active and passive personnel. Instruction was started in remodeled quarters at the local Veterans Administration Hospital, and the County of Dade had agreed to the use of Jackson Memorial Hospital when and if it were needed for the clinical phases of instruction. The Dade County Medical Association had presented a resolution to the University attesting its interest in and desire to assist the new School. Contrariwise, a group of five "citizen-tax-payer watch-dogs of the State's Treasury" had instituted legal action to prevent the payment of state subsidy support to the School. This, then, was the picture in 1952.

Present Status

Despite its inauspicious and austere beginning, the School has grown in stature and scope of activity. Soon after the beginning of the fourth year of instruction, the Liaison Committee on Medical Education made recommendations which led to full accreditation of the School prior to graduation of its first class.

STUDENT BODY. Each year, an increasing number of students has been admitted to the beginning class. In September 1957, 75 Florida residents and five nonresidents are enrolled in the first year class. This number approaches the maximum number planned for the School, which is 76 to 84 per class. All students admitted to the first five classes were residents of Florida; indeed, in keeping with terms of the legislation governing the subsidy support, all had been residents of Florida for a minimum period of seven years prior to admission. That the state as a whole has been served in the student body is reflected in the origin of the students. Fifty of the state's 67 counties have been represented or are now represented by enrolled students.

The School now has 60 graduates. Although Florida's medical licensure laws do not require an internship as a prerequisite to licensure, all graduates have completed or are now engaged in internships. It bespeaks the acceptability of the instructional program that men and women who have completed the four year program have served or are now serving internships in hospitals such as the Philadelphia General, Washington University Medical Center, University of Texas Medical Center, University of Illinois Research Hospital, Grady Memorial of the Emory University Center, and the New York Hospital of the Cornell group.

The "proof of the pudding" will, of course, come to light as the graduates take their places in the communities of the state as practitioners, and about one half of the first graduates are now settling down in practices; the remaining one half is occupied in various graduate training programs in special fields of medicine and surgery.

FACULTY. The major number of faculty members of the preclinical departments are full time, salaried appointees and devote their entire time to the School's requirements. A few physicians, interested in one or another of the preclinical fields, are serving on the instructional staff as volunteers.

The heavy demands of administrative nature, organization of the teaching activities, development of research work, and the supervision of patient care, have necessitated the organization of the clinical departments around a core of full time faculty members. This core has been supplemented and complemented by a number of faculty members drawn from the practicing physicians of Dade County. From the initial group of four full time and one volunteer member in 1952, the faculty has expanded to about 100 full time and 485 volunteer members in the current academic year.

About 35 of the full time members are in the preclinical departments, and the remainder are in the clinical departments of medicine, surgery, pediatrics, obstetrics-gynecology, and psychiatry. It is worthy of note that about 20 of the full time men in the clinical fields are supported from extramural funds and devote a major portion of time to research activities.

Present Preclinical Sciences Building in Coral Gables. VA Hospital appears in background.

In the relationships between the School and its teaching Hospital, the chairmen of the five major clinical departments, and chairmen of sections therein, also are chiefs of the corresponding hospital services, being responsible for the supervision of the care of staff patients of the Hospital and its clinics.

Organization of the clinical segment of the faculty has not escaped criticism of a few members of organized medicine who believe the salaried faculty violates the code of ethics and principles of organized medicine. Although this is not the place, nor is there adequate space in which to present an exhaustive picture of the situation, suffice it to say care has been taken to avoid any implication of the School's practicing medicine as a corporation. Full time faculty members who are licensed as physicians are permitted to see private patients in consultation or for ultimate care PROVIDED such patients are referred to them by another licensed and practicing physician. There is a dollar limit placed on the extent of such practice, and neither the School nor Hospital requires the faculty member

Model of Medical Education and Research Building. Construction to begin in October 1957.

to turn over to either of these institutions any part of his earnings from this or other sources.

INSTRUCTIONAL FACETS. The primary *raison d'etre* for this or any undergraduate medical school is to offer a solid educational experience in the inter-related basic medical sciences and the clinical applications thereof. Although different technics are used for accomplishment of this objective, our own curriculum is organized in such a manner as to provide for three basic thoughts. (1) There is an opportunity to guide the students through an experience in the basic sciences as individual disciplines, yet (2) integrating between the various basic sciences to show their interrelationships as parts of medicine as a whole and, (3) correlating between the basic sciences and the clinical areas to show the dependency of the latter on the former.

Time does not permit a detailed explanation as to the manner in which these ideas are effective, but it is sufficient to say that the manner lies somewhere between the commonly applied "vertical" plan of building on the basic sciences as separate disciplines and entities, and the newer-developed "horizontal" plans which attempt to bring all aspects of a four year curriculum into one completely integrated whole.

Two or three interesting and unusual aspects of the instructional work may be presented herein.

In an effort to make an opportunity for students' appreciation of the general practice of medicine, a program is operating in the fourth year curriculum. In this year, students spend almost 100 per cent of their time in the clinics under supervision of the faculty. The general medical clinic is staffed by a full time internist, medical resident house staff, general practitioners, and medical students. Students who are assigned to this clinic work alongside the general practitioners as they see the patients and have the opportunity to observe them in their approach and relationships with patients. In the event an extraordinary situation presents itself, the internist is at hand for assistance. At the end of the clinic session, a group discussion is held between all staff of the clinic, and selected cases are reviewed. It is during such sessions that the students and general men may profit by the observations of the internist. The student has a chance to benefit from the activities and contact with the general men, and the general practitioner has a chance to benefit from a continuing postgraduate experience. At the present time, about 50 general men are working in the medical clinics, and it is planned this type of participation will be extended to other areas of medicine for the benefit of the general men.

The geographic area holds attraction to many elder citizens. Many of these men and women make positive contributions to the community, yet many have problems which may be nonmedical in basic origin and need help in resolving their difficulties which may take on a medical aspect. Two years ago a gerontology clinic was organized as an experimental clinic. This is spoken of as the "comprehensive medical clinic" or "total-push" program. Professional personnel includes internists, psychiatrists, clinical psychologists, social service workers, and welfare workers as a tightly knit team which attempts to evaluate all facets of a patient's complaint. After a patient has been seen by the individuals of the team, a con-

Aerial view of Jackson Memorial Hospital, clinical teaching facility.

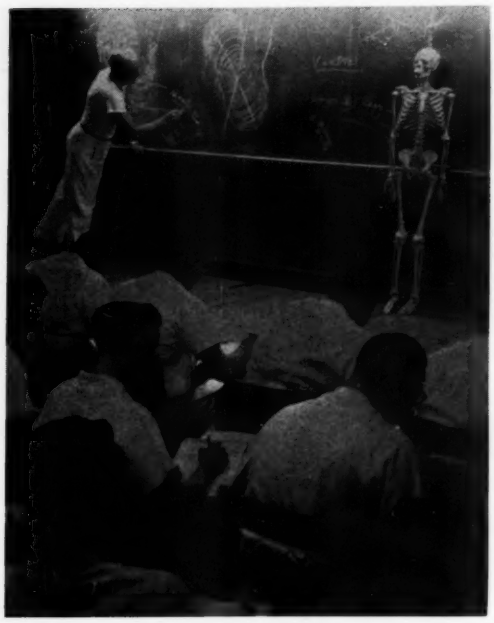
Small group conference teaching, Department of Obstetrics-Gynecology.

ference is held in an attempt to work out relief for the patient. His problem may be simple of solution, needing, perhaps, only guidance into broader social contacts, or some assistance from the Welfare Department. If the problem is essentially medical, the patient will be referred to a specific clinic for remedial measures. Under any circumstances, the clinic functions as a good area for emphasizing the comprehensive picture of man and the various interrelationships which may have an impact on his well-being. It is worthy of note the latest faculty addition to this clinic is a physician who, although 80 years old, still is quite capable of appreciating the problems of the aged and interested in getting down to basic issues involved therein. The clinic's activity has grown rapidly and is exciting comment nationally.

Research Activity. No modern medical school can expect to build its reputation on the quality of its instructional programs alone. Not only is the faculty expected to offer a sound educational opportunity, but it is expected to further medical knowledge and skill through research. Although it has been quite busy in initial organization, the faculty has expanded its research interests and activities until, in the current year, almost $1,000,000 in research activity is supported by various independent and governmental agencies. As about 100 specific projects are included in the over-all program, these cannot be listed herewith, yet a few may be touched upon in brief.

To a Floridian, perhaps one of the most startling subjects for a research project is "smog," yet the U. S. Public Health Service succeeded in interesting our Department of Pharmacology in this very important problem. Supported to the amount of almost $50,000 annually, this project has a basic objective of studying the toxic constituents of smog and attempting to learn more of the mechanisms which lead to the formation of this dangerous pollutant in air. The same department is deeply involved in testing numerous compounds used in industry for their potential toxigenicity and, particularly, their carcinogenic properties. During the summer just past, a rather comprehensive undertaking at the request of the U. S. Air Force was outlined and put into operation. This concerns the possible detrimental effects of exposure to radar radiation of high frequency. This program will involve a number of the departments and will attempt to clarify many mystifying observations involving the effect of radar exposure on the human as a whole and on isolated tissues.

As a result of a collaborative effort between the Department of Bacteriology and the Variety

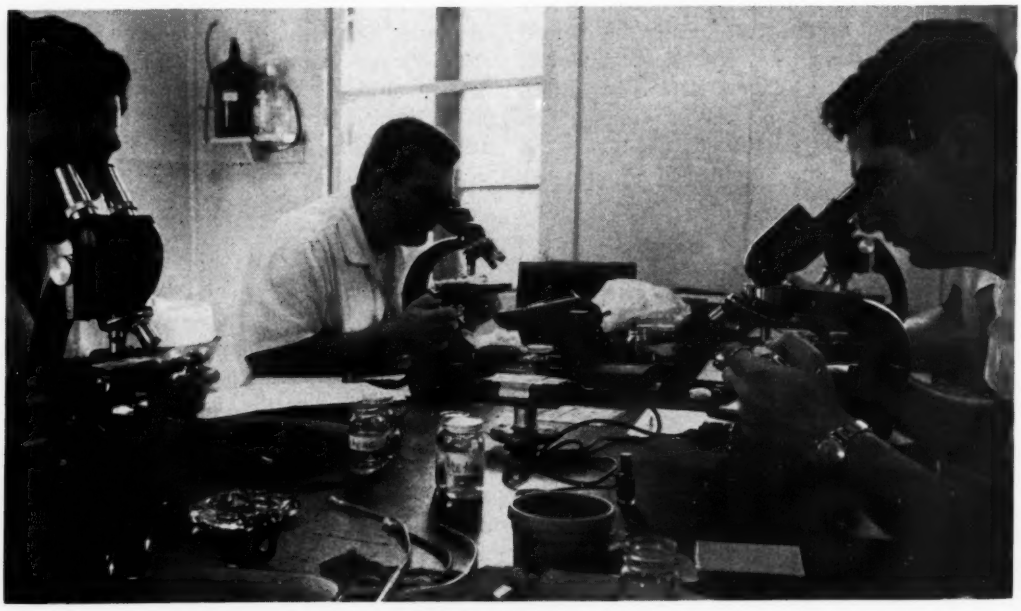


Students' first introduction:
Anatomy, with Dr. George H. Paff.

Childrens Hospital, a virus diagnostic laboratory has been in operation for its second year. The laboratory, in so far as can be learned, is the only comprehensive facility for service and research in Florida for virus studies. Studies on the antigenic structure of viruses and basic features of immunity in the virus diseases are being made.

Advances in the surgery of the heart have demanded better means of carrying the patient along during such surgery. The Department of Surgery has been quite active in improving heart-lung bypass equipment to permit a more convenient medium in which the cardiac surgeon can perform his work. A rather complete experimental animal surgery in the Department of Surgery provides facilities for expanding the skills and knowledge in the field of surgery.

Three basic areas of activity have commanded the attention of the Department of Medicine. An extensive, nationwide approach to the chemotherapy of cancer is being directed from this Department. This work involves the chemical synthesis of new compounds, their screening in animals for chemotherapeutic effect, and final testing in humans of any which show promise. Parts of this work are being carried on in about half-a-dozen medical schools in the United States, and in several hospitals scattered throughout the nation. Cardiopulmonary laboratories supported jointly by the Miami Heart Institute and the School of Medicine provide excellent and complete facilities for studies of physiologic background involving various cardiac conditions. A third broad area of activity is that concerning studies on connective tissue. These are basic



Pathology Laboratory.

studies designed to throw light on the role of connective tissue in aging and in cardiac disease. The work was recently recognized by a prize from the Ciba International which, annually, reviews the tremendous amount of work done in the aging processes by investigators throughout the entire world.

The School is pleased that the magnitude and quality of research being carried on has improved constantly. That this work is done in rather meager quarters attests to the broad and consecrated interests of the faculty.

Physical Facilities. The provision of adequate physical plant in which the School's work may be carried on has hardly kept pace with demands. The preclinical science departments still are housed in the remodeled building at the Veterans Administration Hospital in Coral Gables, while the clinical departments carry out their work in the Jackson Memorial Hospital. Only recently, provisions were made to relieve the rather acute shortage of space for research activity by two moves. A sizable building located adjacent to the Hospital was purchased by the University and remodeled to house certain basic research laboratories used essentially by the Departments of Medicine and Surgery. In October 1957, construction is scheduled to begin on a new medical research building which will be of eight stories and about 100,000 square feet of floor space. This building has been financed in part by a grant from the U. S. Public Health Service and in part by the University. Its completion will do much to relieve the problem of housing research programs.

The next major requirement in the School's development is that of providing a more adequate educational building, and although plans have been roughly laid out to include a $3,000,000 structure, funds have not yet been accumulated. The educational building is planned to become a physical extension of the research building and will have its activities integrated on a departmental basis with the floor layout of the research building.

The School is fortunate in having the facilities of Jackson Memorial Hospital at its disposal for clinical instruction. This hospital, of 950 bed size, is in the process of expansion as provided by a $6,000,000 bond issue approved by the freeholders of the County last November. When this expansion and improvement program is completed, it will be difficult if not impossible to find a better clinical teaching facility in the southeastern states.

The picture of the School as it is today reflects a major beginning toward an outstanding and complete medical education and medical service center in Dade County. In the immediate future, prospects are bright for some important additions to the over-all situation involving the School and its teaching hospital. Plots of land have been assigned to two groups on which it is planned to build two private hospitals adjacent to the teaching hospital. A third group is in the discussion stage of coming to an affiliation with the School and removing present facilities to the grounds of Jackson Memorial Hospital for improved patient care and teaching programs in the area of children's diseases.

Despite certain temporary needs, the School's Administration and Faculty believes the state's investment through subsidy support has been justified and that all areas of the state are certain to benefit from the investment.

University of Florida College of Medicine

GEORGE T. HARRELL JR., M.D., DEAN

On Sept. 8, 1956, the first class of 47 medical students was enrolled in the new College of Medicine of the University of Florida at Gainesville. The basic philosophy on which the program has been planned was described in the September 1954 issue of the Journal of the Florida Medical Association. A more complete discussion of the role of the University in medicine was presented later to the Council on Medical Education and Licensure of the American Medical Association and published in the Journal of the American Medical Association, June 23, 1956. The faculty is deeply grateful to the Florida Medical Association for its advice and help in our planning and for its solid support during these formative years.

Students

The first class, which will graduate in 1960, was selected from 280 applicants. In all, 124 prospects were interviewed personally by the faculty selection committee. The ratio of Florida residents to nonresidents among the applicants was 3:2. Ten women applied, and three were accepted. The 44 Florida residents came from 20 counties, from Escambia to Dade; the maximum number, from Duval, constituted 15 per cent of the class. One student each came from Maryland, New York and Wisconsin. At the time of admission, 18 students (38 per cent) were married, and others have subsequently taken the step. Only two students had not received a Bachelor's degree at the time of entrance; five had advanced degrees in bacteriology, psychology, chemistry, or agriculture. The scores achieved on the Medical College Admission Test, which is administered nationally to all prospective students, places the class average in the upper 50 percentile of the entire country.

The students entered from 13 different colleges out of the state and three in Florida; slightly less than half of the students (23) entered from other colleges in the University of Florida. Three students received state scholarships in 1956, and an additional one was awarded to a second year student in 1957.

The 50 members of the second class (1961), which will enter this month, were selected from 332 applicants. The 43 Florida residents come from 19 counties, and seven nonresidents from Georgia, Illinois, Connecticut, Massachusetts and New York. The students enter from 19 colleges and universities throughout the country. Four received state scholarships.

The same size classes will be accepted for the fall of 1958 and 1959; thereafter, the classes may be enlarged to 64 if the number of high quality applicants increases.

Faculty

An exceptionally well qualified, young and enthusiastic faculty has been recruited for the basic science departments. Chosen on the basis of teaching ability and research potential, individual members were selected to bring together widely varied backgrounds and interests. A determined effort was made to obtain men and women who had a liberal arts background and who had attended small colleges before they had undertaken professional training in a large university. Three of the department heads have been abroad since joining our faculty to lecture in medical schools in Europe and South America or to give scientific papers at international meetings. Others had received part of their training abroad before coming to Gainesville.

The faculty for the third and fourth years of clinical teaching is now being selected. The head of the Department of Medicine is in residence and other members will be arriving in the fall. The Professors of Surgery, Psychiatry, Obstetrics, Pediatrics and Radiology will be appointed during this school year.

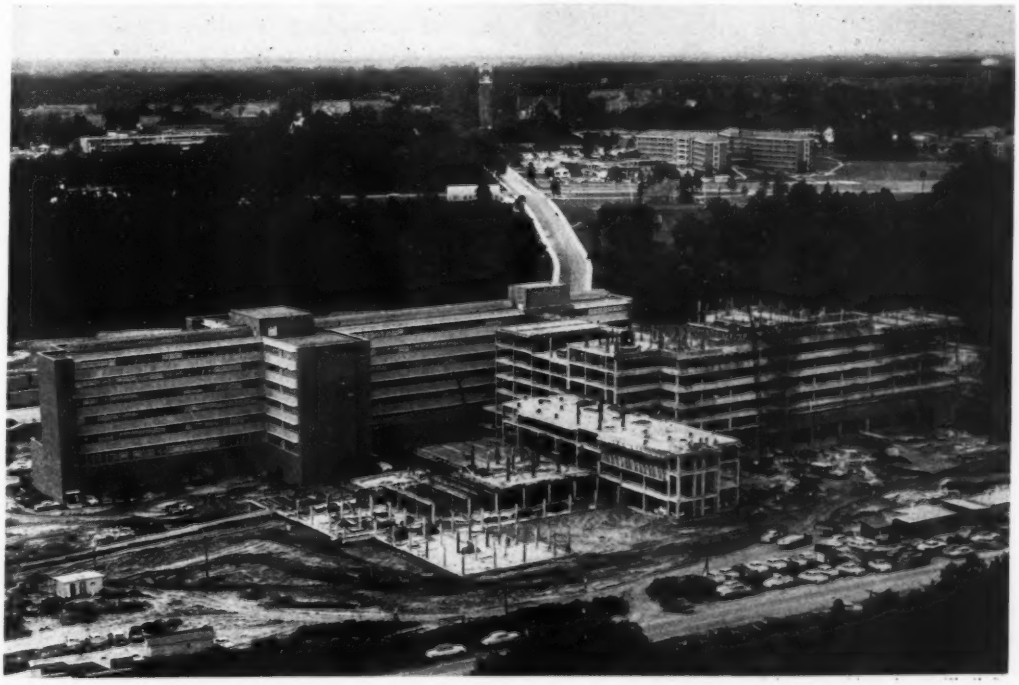
New department heads are appointed approximately one year in advance of the time their teaching duties begin. This "lead time" is extremely important and offers the chairmen an opportunity to search widely for staff, examine teaching methods in use elsewhere and develop a curriculum fitted for our needs. This amount of time is required also to select equipment carefully and order supplies, write syllabi and laboratory outlines, plan research programs and tend to a multitude of other details before student teaching begins and the patient load develops.

Physical Plant

The new school was located on the University campus so that it might rely on all the resources of a large State University and participate in the other varied educational activities under way. The land chosen for the site is situated toward the periphery of the heavily built up area of the present main campus. In this manner a satellite operation can be developed with sufficient room to become a cohesive unit as new programs are activated in the Health Center. The site is in close proximity to the rest of the campus for students' convenience, but on a highway for the ready transportation of future patients. In this fashion the problems of traffic, parking, growth, and addition of other units—such as pharmacy, dentistry, and research—could be anticipated and preliminary planning done now.

The Medical Sciences Building has been designed with a basic science wing toward the west and a wing for the clinical departments toward the east. In the cross wing are certain expensive large facilities which will be shared. The basic science and clinical departments placed on a given floor were selected so that they might have a common interest in teaching, research, or both. In this fashion it is hoped that departmental barriers will be kept to a minimum and that the student will tend to think of both clinical and preclinical areas as different facets of medicine as a whole. This design results in two vertical axes for movement of people and supplies: one at the center of the building for the medical school; and a second off the main lobby to the east for nursing and other fields related to clinical medicine.

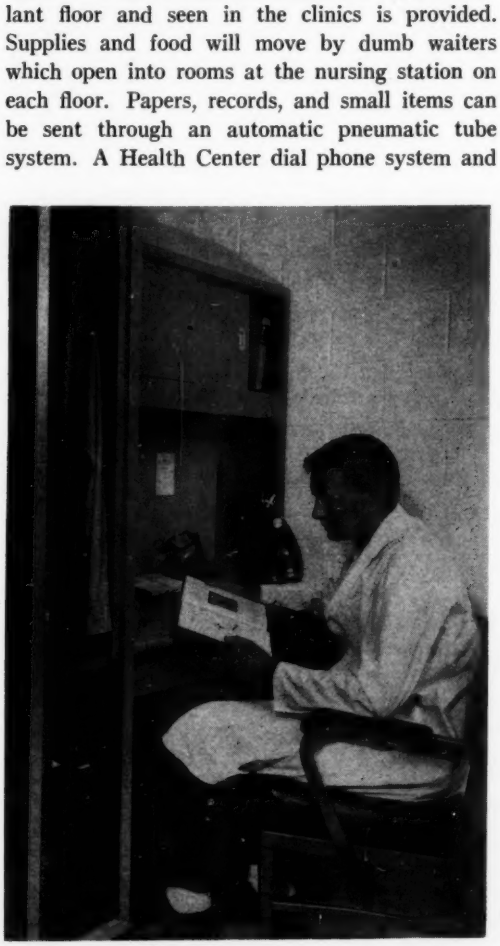
The Teaching Hospital connects with each of the seven floors of the Medical Sciences Building; two floors extend above. Functions in the hospital have been related floor by floor with the present building. For example, the ground floor is planned for horizontal movement of supplies which would be carried in carts or handtrucks. At this level are found the receiving dock, storage spaces, morgue, shops, post office and locker rooms for personnel. The first floor is planned for horizontal movement of people—students, patients, visitors and staff. On the second floor, the Department of Anatomy is placed with the surgical specialties of urology, orthopedics and neurosurgery,



The J. Hillis Miller Health Center on the campus of the University of Florida at Gainesville. The Medical Sciences Building, at the left foreground, which houses the College of Medicine and College of Nursing, was dedicated Oct. 13, 1956. The 400 bed Teaching Hospital and Clinics, in the right foreground, is scheduled for occupancy in October 1958. Dormitories and classrooms for other parts of the University are shown in the background.

which can help in the teaching of anatomy. The workshop for surgeons is the operating room, and the clinical visualization of anatomic structures is done with x-rays; so these two functions are found on the second floor in the Teaching Hospital and clinics. This horizontal functional relationship has been carried out as far as possible throughout the entire physical plant.

The main vertical axis for the hospital opens off the corridor which connects the main lobbies of the hospital and Medical Sciences Building. Staff, visitors, and students can reach any floor whether they enter from the campus or highway. A secondary axis for ambulatory patients who will be housed in the new type ambulant floor and seen in the clinics is provided. Supplies and food will move by dumb waiters which open into rooms at the nursing station on each floor. Papers, records, and small items can be sent through an automatic pneumatic tube system. A Health Center dial phone system and an intercom system to each patient room on each floor complete the communication network.



One of the individual study cubicles assigned to each medical student. Called a "thinking office," it emphasizes the most important part of a physician's work and thus preparation for medical practice. In many other ways, the design of the Medical Sciences Building demonstrates the student-centered program of the College of Medicine.

Teaching facilities have been planned with the greatest amount of flexibility possible. A study cubicle has been designed so that the student may start on his first day in medical school the pattern of thinking he will follow for the remainder of his professional life. For the first two years the study cubicles or "thinking offices" are placed on the first floor of the Medical Sciences Building; for the third and fourth years they will be located on the same floor of the Teaching Hospital equally distant from the library.

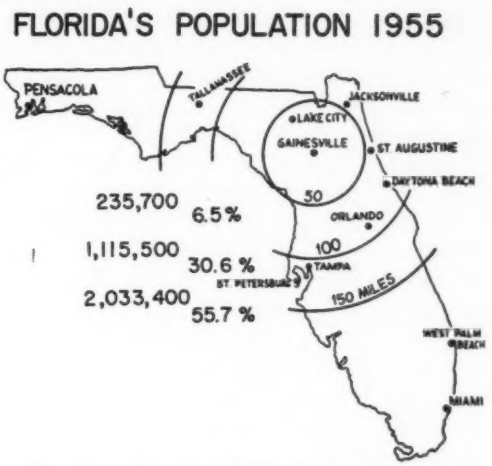
All classrooms and laboratories on all floors have been sized for student groups of 16. Seminar or small classrooms for a single group also serve as departmental libraries and are found in each wing. Intermediate size classrooms for two to three student groups (35 to 50 students) are found at the clinical end of the building so that they may be used by the College of Nursing and by allied health professions as well as the clinical departments. Lecture rooms seat three to four student groups (50 to 70 students). The student laboratories have been designed as multipurpose facilities. Four student groups (64 students) may be taught at one time, or each of the laboratories may be divided by movable partitions into two, three or four units. In all teaching laboratories each student has his own place in the center. Large basic pieces of equipment which are shared by a group are found at the ends of the laboratories against blank walls. Special instruments or demonstrations for each group are found at the sides under the windows on unassigned counters, each of which contains its own storage space. Opening off each side of the main teaching laboratories are preparation rooms for the departments housed in that wing. In this fashion maximum use of the laboratories can be achieved for more than a single course. A general type "sit-down" laboratory has been placed on the even-numbered floors while special "stand-up" type facilities are found on odd-numbered floors. Lecture rooms primarily designed for projection are on even-numbered floors, while those intended chiefly for demonstration are on odd-numbered floors. By this arrangement a class need only walk up or down one floor to use a different type of facility.

On the ground floor, animal quarters have been placed at the west end and library stacks at the east end of the building so that these two

facilities can expand without any disruption of the functional arrangement as new units are added to the Health Center.

The research laboratories have been designed with a four and one-half foot architectural module. This module permits the use of interchangeable bench units and allows six inches for pipe space with each unit. Two modules are used for graduate student, house officer, fellow, or junior faculty member office-laboratory combinations. Three modules are used for two to three house officers working together or for a junior faculty member and technician. Four modules constitute a full-sized research laboratory for a specific project with space for technicians, students, or research assistants. When two modules are added at one side, it is possible to have open into the laboratory a special instrument room which can be adapted to optical recording, tissue culture, and so forth and a small office for a senior faculty member. This project type laboratory has proved to be extremely efficient in the use of space and has attracted a great deal of attention because of its flexibility.

The 535 seat auditorium has been planned for public functions. A separate stairway opens off the main lobby of the Medical Sciences Building so that the use of this facility will not interrupt any activities in the medical school. The acoustics have proved to be almost perfect, so that the room is in great demand for chamber music concerts, various scientific and lay meetings



The location of the J. Hillis Miller Health Center in relation to the state, county and university campus. Over two million people, more than 50 per cent of the population of Florida, live within 125 air miles of Gainesville or three hours' driving time. On the basis of experience in other Southern states of comparable size, the majority of patients will be referred from the area within the concentric circles.

A multipurpose teaching laboratory equipped for the ultimate size medical class of 64 students. Lecture rooms, classrooms, and laboratories on each floor are designed for student groups of 16 or multiples of this student module. In the design of the physical plant every possible effort has been made to achieve the greatest amount of flexibility so that the curriculum may be changed from year to year and the teaching space used for many purposes.

by groups on and off campus—even the football coaches' "clinic." We have encouraged its use particularly for cultural purposes, to emphasize to the future physician that he must be a part of the community in which he practices.

From every part of the building, except lecture rooms and the auditorium, the student can look out at trees and green grass. This emphasis on intangible values and subtle influences has been intentionally planned in the building. The architectural design has been kept open to resemble the Florida type of indoor-outdoor living. Bright cheerful colors have been selected for floors and walls, and the general atmosphere has been kept as informal as possible consistent with a professional atmosphere.

A large number of visitors—medical educators, architects, practicing physicians from other states, as well as citizens of Florida—have been coming to see the building. The number of visitors and the detailed inquiries have been sufficiently great that one member of the nonacademic staff has been assigned to serve as a guide as needed. Educators and physicians from South and Central America, Australia, Canada, England, Germany, Sweden, Israel and other parts of the world have visited during the past year. We are particularly pleased that the general public is proud of its new medical school. It is a source of professional gratification that our architectural plans have been borrowed by new schools now in the stage of development as well as by established schools which are adding new buildings.

Equipment

The laboratory furniture for the major teaching areas and the research laboratories for the basic science departments has been installed. Insofar as possible, equipment has been selected which will simulate that in use in hospital laboratories or in the physician's own office. For example, a new type of portable, direct writing recorder has been designed and built especially for our Physiology-Pharmacology teaching laboratory. The data are recorded on paper strips which resemble the clinical ECG and EEG records which a physician obtains on his patients.

Specialized pieces of equipment for research —such as an ultracentrifuge, electrophoresis apparatus, radioisotope counters, phase microscopes and micromanipulator with miniature electrodes as small as one twenty-five thousandth of an inch —have been installed and are operating. On order and scheduled for delivery during the fall are the special fluoroscope and equipment for cardiacatheterization studies, respiratory physiology laboratory and an electron microscope.

We are indeed grateful to voluntary agencies in the state, such as the Florida and Volusia County Heart Associations, the American Cancer Society, the Damon Runyon Fund and many others which have given us sizable grants for the purchase of this equipment.

Curriculum

Because we are a new school on an established University campus, we are working with faculty and administrative groups from other parts of the University in studying means to improve the preprofessional preparation of students. Members of the medical faculty are serving as preprofessional counselors, and in return a biologist, political scientist and humanist are serving on the Medical Selection (Admissions) Committee. Every effort is being made to recruit students with a broad liberal arts background in addition to the minimum scientific requirements. With this preparation medical students can be treated as mature graduate students, and we can move more quickly toward our primary educational goal—the training of family physicians for practice in the small cities of Florida.

The curriculum has been arranged with free time regularly scheduled for all students, so that they may feel free to explore more intensively stimulating aspects of their studies which have already been presented in the classroom or laboratory, pursue independent research, or elect studies in other areas of the University. Our teaching is directed toward understanding concepts, principles and methods rather than toward an accumulation of facts.

Although the primary emphasis is on training for the M.D. degree, students interested in medical teaching and research may elect to work toward a Ph.D. in Medical Sciences. A graduate curriculum has been approved for broad training in all the basic sciences with a major field of concentration in Anatomy, Biochemistry, Microbiology, or Physiology. We will require that graduate students elect a minor field outside of the College of Medicine. Four students are already enrolled through the Graduate School and are in residence working at the College of Medicine toward this degree. As top-flight students apply,

this program gradually can be expanded to 40 or 50 students.

The College of Nursing has also completed its first year of teaching. During the past year, medical students regularly demonstrated dissections in anatomy to nursing students. Other joint teaching exercises are planned in subsequent years.

An internship and residency program has been planned for the Teaching Hospital after it is open.

Postgraduate Program

In June, the Twenty-Fifth Annual Graduate Short Course in Medicine sponsored by the Florida Medical Association was held in the Medical Sciences Building at Gainesville. The historical development of postgraduate medical education in Florida is described elsewhere in this issue. Organized postgraduate courses, in conjunction with the Florida Medical Association and the State Board of Health, are planned for the campus and may be extended to other parts of the state. Dr. William C. Thomas Jr., formerly a practicing internist in Gainesville, has been appointed to the full time faculty as Assistant Professor of Medicine and as Director of Postgraduate Education. His plans for continuing education are outlined on page 264.

Doctors may attend any teaching exercises at the school on an informal basis at any time and are welcome to use the library and other special facilities.

Research

Research is an integral part of good medical education. All of the departments in operation have active research programs under way. In view of the current interest in Nuclear Science in the state, it is of interest that all departments have persons trained in the necessary technics and are using radioisotopes in their experiments.

Research ranges in type from a fundamental basic study involving the kinetics of single enzyme molecules and the emission of quanta of light to problems that are immediately applicable to patient care such as the mechanics of respiration. The latter study is being conducted under a contract with the Department of Defense. Grants totaling approximately half a million dollars for support of teaching and research projects have already been received from the National Institutes of Health and other governmental agencies, voluntary health agencies, industry and private sources.

We have been extremely gratified that more than a fourth of the first class has requested permission to remain in residence during the summer to work in various research laboratories. We are especially grateful to the Florida and Volusia County Heart Associations for funds which have permitted us to support student research fellowships in addition to the six awarded by the National Institutes of Health.

Needs

Our greatest need is for scholarships and loan funds. Most University funds for this purpose are earmarked for other fields and are not available to medical students. The financial problem of a medical education has become increasingly pressing since the program of government support under the G. I. Bill is running out. The state scholarships are of great help, but are limited in number. With increasing inflation and with the trend toward earlier marriage in all college students, more scholarships are urgently needed.

We are indeed grateful to physicians in Florida who have made individual gifts for use as short term loans. We have estimated on the basis of present requests that a Revolving Student Loan Fund of $50,000 could be used immediately.

The students have been most appreciative of the radio-"hifi" record player–television set for the student lounge which has been bought with a donation from a physician in the state.

Future

The legislature has appropriated $1,451,000 to construct a building for the College of Pharmacy. This new wing will be built at the west end of the Medical Sciences Building so that the present basic facilities such as Library, Animal Quarters, and Sterile Central Supply already in operation can be utilized fully. Facilities have already been planned and are being built in the Teaching Hospital for use of the College of Pharmacy in its teaching program. It will be possible to give instruction in Hospital Pharmacy and to expand the program of research and training for careers in the pharmaceutical industry.

Enrollment in the College of Nursing has far exceeded expectations. It is most gratifying that the advanced curriculum has been so widely recognized. Students in the College of Nursing have come from as far as Vancouver, British Columbia. Expanded physical facilities for the College of Nursing are being built in the Teaching Hospital

and will be ready by the time the junior class goes on the wards.

An intensive study has been under way for two years to determine the best method for training students in other programs than medicine and nursing who plan to work in the health fields. When in full operation, this unique program of coordination of education and practical training could teach 500 to 600 students in physical and occupational therapy, x-ray and medical technology, clinical psychology, all phases of rehabilitation, hospital administration and many other fields. This program has been tentatively called a College of Health Related Arts. The physical facilities for training these associated health professions in the Teaching Hospital are being constructed in the rehabilitation area. Through the assistance of the Florida Development Commission, Wolverton Act Funds have been obtained from Mississippi and South Carolina to permit the completion and equipment of the rehabilitation area. Our Teaching Hospital is one of the few built since the war which has not received Hill-Burton construction funds. The limited amounts available to Florida have been used in community hospitals.

The forward-looking program sponsored by the Florida Medical Association for hospitalization of indigent patients should prove invaluable in our teaching program. Our hospital administrator is planning procedures and assembling a staff to open the Teaching Hospital now under construction and scheduled for completion in the fall of 1958. Patients will be referred to the staff by the family physician, except in the case of emergencies and accidents which will be taken care of as the need arises. As the name implies, all patients will be used for teaching.

Plans have been drawn and construction should start this fall on 104 apartment units for married students and house officers on the site to the east of the Teaching Hospital. Recreational facilities for the use of medical and nursing students, house officers and staff are planned for shaded areas adjacent to our site on the north and east.

The legislature has designated the University of Florida at Gainesville as the site of a College of Dentistry. This College could be incorporated into the Health Center. No immediate plans have been made for the development of this school.

As the University continues to grow, the Health Center with its key unit, the College of Medicine, will be flanked by other units of the University related to its program. Women's housing is now approaching us from the northeast, men's housing from the northwest, and instructional areas, including the Nuclear Science building which is part of the larger development of a Science and Technology Center, from the north.

It is our goal to make the College of Medicine and its associated units in the Health Center an extension of the strong right arm of the family physicians in the state and an institution of which the profession and people can be proud.

History and Development of Postgraduate Medical Education in Florida*

Approximately 26 years ago, Dr. Turner Z. Cason conceived the idea of having a six week midwinter seminar on medicine at Gainesville, Florida. At that time the thought was to present only didactic lectures. A general outline was presented to Dr. J. J. Tigert, President of the University of Florida, who was most enthusiastic and made every effort to begin such a course. It was planned that the first half of each week was to be devoted to medicine and the second half to surgery, thereby permitting the physicians in attendance who were not general practitioners or who did not wish to receive lectures in both surgery and medicine to spend the remaining days of each week seeing Florida and having a vacation. It was planned that English-speaking physicians from Central and South America would be invited, and Dr. Tigert offered to send the Professor of the Institute of Inter-American Affairs to invite these physicians and to explain the proposed plan and the purpose. There was no way by which the University of Florida could finance such a propect, and only $2,000 could be guaranteed. The estimated total cost was a minimum of $5,000. Beginning a project of this kind, one could not be assured of the attendance or the fees obtained from tuition; therefore, the idea was abandoned.

Up to that time, no serious thought had been given in recent years to the establishment of a medical college in the State of Florida. The efforts by the Florida Medical Association and the University of Florida to present graduate medical education to the physicians of Florida stimulated the thinking which led to planning for a medical college as a part of the University system. The reception of this thinking by the physicians of Florida aided in advancing the planning.

The following year, 1932, Dr. Gerry R. Holden, President of the Florida Medical Association, appointed Dr. Cason chairman of the Committee on Medical Postgraduate Course. The other members of this Committee were Dr. George C. Tillman of Gainesville and Dr. Thomas H. Bates of Lake City. At the first meeting of the Committee it was decided to begin the graduate work by holding a short course designed for the general practitioner, lasting from Monday morning to Saturday noon. At a conference with Dr. Tigert, it was the concerted opinion that this program should be placed under the General Extension Division of the University, of which Dr. Bert C. Riley was the head. The Division materially assisted by printing the programs, arranged for the meeting place at the University, and many other details.

The first course was held June 19-24, 1933, on the campus of the University. The first two years, an attempt was made to present to the general practitioners as many phases of general medicine as was possible. The Committee carefully analyzed the results and began to eliminate subjects gradually, concentrating on medicine, pediatrics, surgery, gynecology and obstetrics. This plan still left open five lectures, the subject of which has varied from year to year; among the subjects chosen have been diseases of the chest, psychiatry and plastic surgery.

Turner Z. Cason, M.D.

*Abstracted from a History of Postgraduate Medical Education in Florida, to be published by the University of Florida.

During the three years the course was held in Gainesville, it was most successful, and the University as far as possible cooperated. Many distinguished men, among them Dr. W. Wayne Babcock, Dr. Chevalier Jackson and Dr. Wilburt C. Davison, came down as instructors. These men were the forerunners of many eminent physicians who lectured at the short course in the years that followed.

Certain special regulations were established early. The time of the short course has always been the last full week in June. It was found that it was most difficult to get faculty members at any other time. At that time, physicians in teaching institutions were not so accustomed to making trips for this type of graduate program as they are now. Also, it was apparently the easiest time of the year for Florida physicians to attend. After the first two years, the Committee decided that those selected to lecture at these short courses must be out-of-state physicians. This was a regulation designed to prevent any criticism of the Committee for apparently promoting a private physician. The Committee also established a precedent to which it has rigidly adhered — never to ask a lecturer to return more than once in a successive year. This regulation has met with the satisfaction of those in attendance, and the lecturers themselves have expressed approval of such a ruling.

After three years, the University was so cramped for space that the Committee thought it should undertake holding the short course in some other city. The next two years it was held in Orlando, and the following two in Daytona Beach. Because of the heat and land breezes in Daytona in 1939, the attendance was poor, and at the insistence of the physicians who had attended regularly, the Committee decided to transfer the course given the sixth year to the air-conditioned Hotel George Washington in Jacksonville.

Because of a conflict in ideas between the Committee on Medical Postgraduate Course of the Florida Medical Association and Dean Riley of the General Extension Division, all relations with the University of Florida were severed during the year 1938-1939. This step was taken by mutual agreement. In 1939, at the solicitation of the Committee, the Florida State Board of Health became a co-sponsor. Since that time, the State Health Officer or his representative has sat in on all Committee meetings, rendering valuable assistance. The Board of Health has materially aided the program both in an advisory capacity and financially.

Beginning in June of 1940 and each year since then until June 1957, the short course has been held in Jacksonville. Each year for a number of years, those in attendance were polled as to the continuation of holding this course in Jacksonville. Each time the vote was almost unanimous in favor of holding it there. Several times a poll of the entire Florida Medical Association was attempted with similar results. In 1946, the question of holding it in different cities each year was seriously discussed by the Committee. The personnel of the Committee represented every section of the state, and after deliberation the members were unanimous in their opinion that it should remain in Jacksonville and in an air-conditioned hotel.

In 1942, a conference was held by the Chairman of the Committee and Dr. Tigert, at which time an invitation was again extended to the Committee to carry on the graduate medical course under the auspices of the University of Florida. It was proposed that a Department of Medicine of the Graduate School of the University be established and a director appointed. Dr. Tigert requested Dr. Cason to draw up specific recommendations for presentation to the Board of Control at its next regular meeting. This request was carried out, and the recommendations were approved by the Board of Control on Feb. 15, 1943, as was the appointment of Dr. Cason as Director of the Department of Medicine, a position which he held until July 1, 1957. In addition to the Director, a faculty composed of Florida physicians was recommended to the Dean of the Graduate School and presented to the Board of Control for approval. These men were appointed on a dollar a year salary basis. Much care was given to the selection of this faculty, both by the Committee and the physicians who were requested to act in an advisory capacity. Its members have remained available through the years to present courses on a variety of subjects at the request of the component county medical societies.

In 1939, the Committee decided it would attempt to present highly specialized courses for physicians in special fields in which they were interested. With the financial assistance of the Florida Tuberculosis and Health Association, the first such course to be presented was on diseases of the chest and was under the direction of Dr.

David T. Smith of Duke University School of Medicine, Durham, N. C. In 1940, a three day special course in cardiovascular diseases was held during the week's short course. Dr. Paul Dudley White, who had accepted the invitation to give this course, was unable to do so and appointed Dr. Ashton Graybiel to take his place. This course was well attended and well received. Because of the inability to secure medical lecturers these special courses were abandoned during World War II, but were resumed in 1947.

The financial status of the Committee has always been precarious. The first year it was necessary for the Chairman of the Committee and Dr. Tillman to borrow funds from a Gainesville bank to do some temporary financing. In 1934, the Florida Medical Association guaranteed $500 a year to support the program inasmuch as the registration fees were not sufficient. Subsequently, the Association contributed a total of $1,000. The Florida State Board of Health's assistance has amounted each year to practically one half of the actual cost. In 1947, the tuition for the short course was increased from $5 to $10. The tuition for the special courses has varied from $10 to $25. Until 1949, the Chairman of the Committee provided all secretarial help as well as many other necessary expenses without remuneration. Until July 1, 1950, all monies collected were deposited by the Florida Medical Association and checked out by the Chairman, who continuously held the dual position of Director of the Department of Medicine and Chairman of the Committee. In 1950, through mutual understanding, the finances were transferred from the Association to a special account under the name of the Director, to be audited by the University of Florida.

In 1947, the employment of a part time secretary was authorized by the Committee. In 1949, through the assistance of the Florida State Board of Health, Miss Hazel Donegan, who had previously acted as secretary to the Committee from 1941 to 1947, was employed as a part time assistant to the Director. In 1950, this was made a full time position under the Graduate School of the University of Florida.

The Director recognized the mission of providing postgraduate medical education would not be fulfilled unless some provision was made for the Negro physicians of the state to attend. The Negroes were not eligible to matriculate as students at the University of Florida. This obstacle was overcome by registering them under the Florida Agricultural and Mechanical College and securing the cooperation of the Florida Medical, Dental and Pharmaceutical Association, which was their organization in Florida. The College provided a registrar and kept the records for these Negro physicians. This innovation in 1940 was enthusiastically received by the physicians of Florida, and comments by the lecturers were most favorable. In more recent years, Negro physicians holding membership in the Florida Medical Association have registered and attended these graduate courses.

In 1956, the Department of Medicine of the Graduate School of the University was incorporated into the Division of Postgraduate Education of the College of Medicine, and the 1957 courses were held in Gainesville at the Medical Sciences Building of the College of Medicine. A special course in hematology was presented on June 20-22, which was followed by the Twenty-Fifth Annual Graduate Short Course on June 24-28. The College of Medicine and the University of Florida made every possible effort to present the subjects designed for Florida physicians so that they could receive the maximum benefit. The President of the University, Dr. J. Wayne Reitz, manifested personal interest in the undertaking.

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A Remodeling of the Educational Foundation For Practice Through Postgraduate Medical Education

WILLIAM C. THOMAS JR., M.D.
GAINESVILLE

In 1892 William Henry Welch said, "Medical education is not completed at the medical school: it is only begun."[1] In recent years there has been an increasing interest and participation in postgraduate medical education by practicing physicians. This year Maurice Pincoffs restated this viewpoint when he said, "The M.D. degree is the symbol of competence for discriminating lifetime study."[2]

The remarkable gains in medical knowledge during the past 20 years have sharpened the need for more postgraduate education, and every physician who has the responsibility of patient care is acutely aware of the need for acquaintance with new facts and theories. The means by which the physician may continue his medical education can be described in four categories: reading of current journals and monographs; attendance at formal postgraduate courses; medical society and hospital staff meetings; and contact with professional colleagues. The first two methods are considered by physicians to be the most rewarding.[3]

READING. The medical graduate, particularly after the fifth postgraduate year, is expected to keep abreast of new developments by the regular use of journals. Reading of carefully selected current medical literature is a valuable educational venture, and one which can be followed at his convenience by the physician alone. The mere mass of publications prohibits any general coverage of the field of medicine, and the variable quality necessitates discriminating judgment for proper appraisal of papers within a given field. The library of the Health Center at the University of Florida is available at all times to any physician who wishes to use it. Other fine libraries are located in all parts of the state.

POSTGRADUATE COURSES. Since World War II the number of short courses sponsored by medical institutions and societies has increased tenfold.[3] This increase not only denotes the desire of physicians to keep abreast of current developments, but also signifies an increased awareness by medical institutions of their responsibility for the continuing education of the practicing physician.

Medical education begins in the medical school and associated university hospitals. If the schools and teaching hospitals are to exercise their full potential in future medical education and human welfare, broad concepts must be adopted. Although these institutions are properly administered with emphasis on the initial education and training of the physician, it would seem highly desirable that they accept an even greater responsibility for a continuing program of education of the physician-student. The enlarged concept of the physician as a continuous student for the remainder of his professional career implies a responsibility on the part of all departments of teaching institutions for continual re-education of earlier students.

The medical school curricula are constantly revised to incorporate recent knowledge into the teaching program for the student, and over a ten year period the revisions in course material and methods of presentation are usually so extensive that the course is completely different from the one of a decade earlier. Thus, the broad foundation of the physician's medical education, which is formed during the years as a medical student and as a house officer, is the educational base upon which he subsequently must build his ultimate medical knowledge. With specialized courses, seminars, and traineeships medical societies and institutions offer excellent means for the physician to obtain advanced and detailed knowledge in any phase of medicine. A brief review, however, of the subject matter of various short courses and seminars indicates that few, if any, are designed for the remodeling of the foundation of the physician's professional education.

Assistant Professor of Medicine and Director of Postgraduate Education, College of Medicine and Teaching Hospital, University of Florida.

Since the medical school courses are being revised to incorporate new knowledge for the current student, the graduate of 10 or 20 years previously should also profit by the revisions. The magnitude and multiplicity of new developments in medicine are such as to render impossible their evaluation by any single individual. Thus, the practicing physician must compensate for lack of specific knowledge by experience and judgment based on an awareness that new knowledge has accrued in areas other than those of his particular interest. The physician would be aided immeasurably in rendering the highest quality of medical care in his practice if the wisdom gained through experience could be added to an always current foundation of medical knowledge. This ideal of maintaining a constantly up-to-date store of basic information does not seem impossible to attain.

Program at the University of Florida. At the College of Medicine and Teaching Hospital of the University of Florida, the concept of the need for continuing education of the physician has been accepted by all departments as sound educational policy. This recognition of a broad role in medical education requires that a program be developed which is accessible to the physician. The members of the Florida Medical Association are aware that an annual short course in medicine has been conducted for a number of years by the Association in conjunction with the State Board of Health, largely through the efforts of Dr. Turner Z. Cason. It is intended that short courses will be continued by the College of Medicine and that all facilities of the Health Center will be utilized. Such courses could be designed for the information of all physicians, regardless of the type of practice or degree of specialization, and could provide an opportunity to inaugurate this type of educational program. Selected advances in the basic medical, physical, or social sciences would be correlated with their application to the recognition and management of disease. Rather than an attempt to cover isolated aspects of the entire field of medicine in a long course, such a program could be divided into a series of one to two day sessions with each portion devoted to a single clinical field—pediatrics, medicine, surgery, obstetrics, and so forth. By keeping constantly in mind the basic purpose of remodeling the medical foundation to a current status, this program would complement highly specialized courses sponsored by a clinical or basic science department, but devoted to more detailed, technical aspects of a single subject.

The anticipated program for postgraduate education at the College of Medicine of the University of Florida would consist, first, of a series of basic courses devised to inform the physician of those developments which have altered previous teaching with emphasis on clinical application of the recent advances; and, second, more highly specialized short courses and seminars for those physicians who wish advanced training in particular subjects, all developed by the various clinical and basic science departments. With the completion of the J. Hillis Miller Health Center, personnel from all fields ancillary to health would participate in these programs.

Informal educational opportunities are already available, and all physicians are welcome to attend staff conferences, teaching exercises, and guest lectures at any time. A lounge has been provided in the Medical Sciences Building for visiting physicians, and the secretary for postgraduate education, who has so ably handled the administration of the short courses in recent years, is available now in Gainesville to arrange appointments with faculty members and conference visits. A calendar of forthcoming hospital and medical school activities is now sent to all physicians and hospitals of the state as well as other interested persons.

These proposals for postgraduate education will be integrated with those programs already in effect in this state. Cooperation and advice of the Committee on Medical Postgraduate Course of the Florida Medical Association, the Florida State Board of Health, and the organized specialty groups in the state are necessary and will be of inestimable value in presenting an effective, comprehensive program. Criticisms and suggestions which will assist us at the College of Medicine are eagerly sought. It is both a privilege and a challenge to develop a program of continuing education which will meet the high standards demanded by the profession in the state. With the cooperation and assistance of the practicing physicians, an ultimately successful program will be achieved so that it may become a reflection of the high ideals and purpose of those engaged in medical practice.

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A New Responsibility — Precipitating Factors

It has become increasingly important for the physician to focus his attention on the precipitating factors of illness. It is not sufficient, for example, for him to make the diagnosis of myocardial infarction due to arteriosclerosis of the coronary arteries; now he must consider possible contributing causes.

A man had a heart attack. It was a hot day. Did circulatory collapse from heat exhaustion play a part in the immediate illness? Perhaps the unfortunate man with the heart attack had played three sets of tennis that afternoon. Did his game have a causative effect?

A 55 year old auto salesman retired because of frequent attacks of precordial pain. If he walked out to the parking lot, or if he became agitated in making a sale, he would experience anginal pain. His electrocardiogram showed changes compatible with healed infarction.

After some 10 months of rest on the beaches, an occasional movie, and frequent afternoons of fishing off the river bridges, he felt greatly improved. His attacks of angina were much less frequent. He had gained 15 pounds.

Thursday afternoon he was driving his car home from the garage. His car was sideswiped. Fortunately, there was no injury except to the fender; however, he became angry, and a heated argument ensued. On the way home he had to stop at the roadside because of precordial pain. A moment's rest and two nitroglycerine tablets enabled him to drive on in comfort.

That evening at dinner, he suffered a severe attack of precordial pain, was taken by ambulance to the hospital, and remained there several weeks. The diagnosis was myocardial infarction.

It is not sufficient for the physician to recognize the myocardial infarction and skillfully guide the treatment. He must focus attention on the possible precipitating factors.

Did the auto accident play a part in bringing on the immediate illness? Does the insurance liability for accidental injury cover this illness? These are largely legal questions; yet the legal questions cannot be answered with justice unless the medical questions are answered first.

Similar questions are raised every day and sooner or later must touch each physician. The

easy way out is for him to give a hasty answer, or to let his sympathies affect his answers, or simply to say, "I won't appear in court." At the same time, these questions must be answered by the medical profession. The truth in these matters is at the mercy of the physician.

Modern society, with the development of insurance coverage and laws for the protection of the laboring man, has thus dropped a new responsibility in the lap of the physician. It has become necessary for each one to focus his attention on the precipitating factors in disease and to interpret cause and effect without bias.

He must develop his thinking and knowledge so that he can discern the difference between precipitating factors in disease and mere coincidence. He must use the same careful intellectual honesty and precise unemotional thinking in these matters that he brings to bear in the treatment of the sick man.

Time has brought a new job for the physician. He must assume a responsibility in decisions of a sociomedical nature in the care of his patients, and he must learn more of the relationship of environmental factors to the precipitation of illness. There is a new responsibility in diagnosis—know precipitating factors and evaluate them honestly.

Dedicated Service

The Florida Medical Association has been blessed throughout its long history with able leaders who have charted the course through the years that has brought it to its present high status. Among them is one who for more than a quarter of a century has cherished a vision of graduate medical education in Florida of which the profession could be proud and from which it would benefit increasingly. To the realization of this objective Dr. Turner Z. Cason of Jacksonville has given of his time and effort unsparingly across the years. In the early thirties, he began pioneering the way that has led to the presentation of medical postgraduate courses within the state year after year by many of the nation's most distinguished teachers.

As recounted elsewhere in this medical education number of The Journal, Dr. Cason was wise enough to associate the Association's program with the Graduate School of the University of Florida, envisioning as he did a great future for Florida in the field of medical education. Steadfastly, in forthright fashion he has persevered, serving as chairman of the Association's Committee on Medical Postgraduate Course since this committee was established in 1932, an appointment which he continues to hold. Likewise, he served as Director of the Department of Medicine of the Graduate School of the University from the time that office was created in 1942 until he relinquished the post in July 1957. Over this long period, in this dual capacity he had rendered valiant service far above and beyond the call of duty. He has laid the groundwork ever more firmly for the consummation of his dream, which, fortunately, he is privileged to see realized in that the Division of Postgraduate Education of the College of Medicine, created in 1956, is now in a position to take over the graduate medical education program as an integral part of the University's unique and comprehensive venture into the field of medical education.

Honor to whom honor is due. Congratulations to this dedicated doctor on a goal attained —the happy fruition of a sound concept and a constructive endeavor which redounds to his credit and to the benefit and glory of Florida medicine.

Modern Medicine Moves Ahead "AMA in Action"

The fantastic pace at which modern medicine moves ahead today is a bit bewildering to the average doctor. Were it not for the assurance that he does not stand alone, he might indeed be overwhelmed. Standing ready to help the individual physician are his county medical society, his state medical society and the national confederacy of these organizations — the American Medical Association. Always the key man in this organizational system, he nevertheless finds in it his mainstay.

An engrossing picture of promoting the science and art of medicine and the betterment of public health is graphically portrayed in the AMA's new booklet entitled "AMA in Action." Here is the story of the pooled efforts of his colleagues to provide every physician with the innumerable informational sources and services he needs. In addition, he finds here a yardstick of progress and an inspirational account of his profession which will stir his pride and be heart-warming.

Take, for example, the realm of medical education, with which this issue of The Journal is

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particularly concerned. It is a matter of national pride that America's physicians are among the best trained in the world. They have won this high rating largely because of the AMA efforts since 1900 to elevate the standards of medical education. By taking the initiative, setting standards for training competent physicians and putting an inspection and approval program into existence, the AMA put the diploma mills out of business. Today, all 82 medical schools are approved, and four new schools under development are aiming for provisional approval.

The AMA's Council on Medical Education and Hospitals in liaison with the Association of American Medical Colleges continues to inspect medical schools periodically, evaluating curriculum, teaching staff, physical and clinical facilities and administration. It serves, however, in a guidance rather than a regulatory capacity. Because internships and residencies are a vital part of a physician's training, the AMA Council cooperates with the American Boards of Medical Specialties and other organizations in evaluating hospital teaching programs and lists those approved.

Evidence of the dedication of physicians to the task of training top-notch doctors is the fact that almost half of the physicians teaching in the nation's medical schools receive no pay for their services. Additional proof is found in the more than five million dollars contributed voluntarily by doctors to the American Medical Education Foundation since 1952 to aid medical schools financially.

These and many more highlights of the AMA in action are set forth in the booklet, which every physician will wish to read and keep for basic reference material. Through its pages every member of the Florida Medical Association will want to look with the AMA toward better medicine, toward better patient care, toward better distribution of medical services, toward a better informed public and toward better public health.

The physicians who founded the AMA back in 1847 were concerned about standards of medical education, safety of drugs and medical quackery. They agreed on collaborative action as the best approach to solving these and other problems confronting the medical profession. How right they were, and how proud they would be that the now century-old AMA stands today as a world leader in medicine and a respected voice in American affairs.

The Medical Secretary

The value of good public relations and efficient business methods in the practice of medicine has been brought home to physicians in recent years in many ways. At the local level, the physician has recognized more and more that his secretary or office aide is a key person in the areas of public relations and business administration for medical practice. Too, he has appreciated more and more that he can reduce his work load per patient by delegating certain activities in his office to properly trained personnel.

Since 81 per cent of all self-employed physicians now have at least one full or part time secretary, nurse or technician, these physicians will welcome efforts to improve training for these assistants. A research study,[1] participated in by the American Medical Association, was made recently to provide a basis for the development and improvement of educational programs in schools for the training at a high level of secretaries for physicians' offices. Its ultimate objectives were to provide physicians with the most competent business—medical assistance possible and to raise the level and status of physicians' secretaries by improving the quality of their work.

Conclusions were based on information supplied by approximately 500 excellent medical secretaries and on personal interview with physicians and business educators. The activities performed in physicians' offices were classified into three catagories: (1) highly technical medical activities which, under normal conditions, only a physician can perform; (2) semitechnical medical activities which may be performed satisfactorily by medical office personnel under the supervision of the physician, and (3) business office activities of a routine or management nature which are ideally performed by the secretary or aide.

The survey points out that "physicians are not making maximum use of their extensive training when they unnecessarily perform semitechnical medical and business activities. To help doctors determine what responsibilities can be delegated properly to office personnel, a system for assigning duties is currently being prepared by the American Medical Association and will be furnished to medical societies within the next few months.

Proper medical secretarial training and training for medical aides should be at the post-high-

school level with a four-year college-degree training program preferable to a shorter course, according to the study. Only schools with strong business training and strong science departments can offer the kinds of courses and the quality of training that are desirable. The survey findings regarding course content in medical secretarial training programs will be particularly valuable to business schools and junior colleges training medical office employees, to medical societies working with such schools to expand existing courses or develop new ones, to societies sponsoring short courses for doctors' aides and to medical assistants' organizations interested in "postgraduate education" for members.

The study, which also tabulates physicians' opinions about necessary personal qualities in the ideal medical secretary, will provide a pattern for screening candidates for medical office positions. It is expected that eventually an evaluation guide based on the survey will be prepared to aid physicians in hiring properly qualified secretaries.

On the basis of the survey, steps which medical associations and medical secretary–assistants groups can take to help provide a greater force of better-trained aides in the future include:

1. Encourage schools with the necessary personnel and facilities to offer high quality medical secretarial training.

2. Recruit high school graduates for high quality medical secretarial training.

3. Organize or assist in organizing refresher courses in medical office administration for the employed medical secretary and assistant.

4. Persuade persons currently employed as medical secretaries to increase the effectiveness of their work through additional training in school and/or while at work.

5. Point out to physicians the importance of employing well qualified medical secretaries and renumerating them adequately.

Undoubtedly, the physician's secretary can save him a tremendous amount of time by performing many of the semitechnical and most of the business activities in the office—if she is well trained and possesses certain important personal qualities.

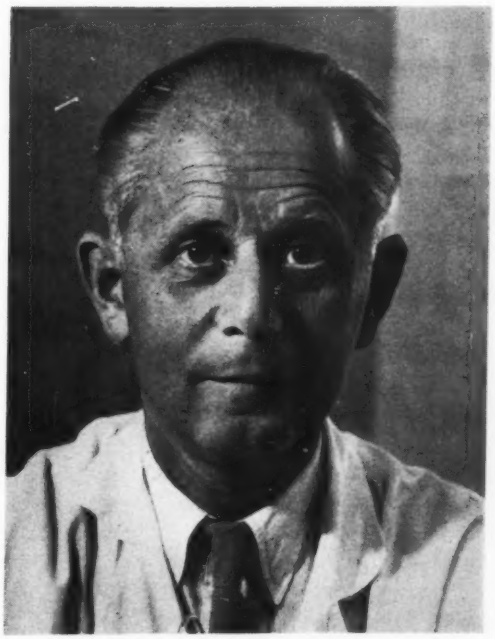
1. The Medical Secretary: Her Duties, Training and Role on Medical Team, a brochure prepared by the American Medical Association, provides a summary of a research study report entitled Knowledges, Skills, and Personal Qualities of Medical Secretaries by Harold Mickelson, Ed.D., 1957.

"Stress of Life" Author to Address Florida Academy of General Practice St. Petersburg, Nov. 1-2, 1957

On an impressive list of speakers who will address the Eighth Annual Scientific Assembly of the Florida Academy of General Practice at St. Petersburg on November 1 and 2, the name of Dr. Hans Selye, Surgeon, emerges in a shining aura of distinctive accomplishments to hold a special place of interest for doctors in Florida.

Born at Vienna, Austria, in 1907, Dr. Selye descends from three generations of physicians. At 18, while a medical student at Prague, he was greatly encouraged in his research on the stress syndrome by not only the moral support, but also the financial backing secured for his work, of Sir Frederick Banting, the discoverer of insulin.

By 1931, Dr. Selye had secured his M.D. and Ph.D. degrees at the German University of Prague. The year 1942 found him at McGill University, Montreal, Canada, with a D.Sc. degree. He continued his experiments in endocrinology, often meeting with strong opposition to his theories. One scientist said, "I don't always agree with Hans Selye, but I have yet to prove him wrong." The British Medical Journal added, "No theory in living memory has stimulated research to such an extent."



Hans Selye, M.D., Ph.D.

During the decade 1937-1947 Dr. Selye held professorships in Histology and Biochemistry at Johns Hopkins and McGill universities and, in 1947, he was Expert Consultant to the Surgeon General, U. S. Army. Recently, in New Orleans he dedicated a "stress laboratory" sponsored by Tulane and Louisiana State universities.

He is the author of a dozen books, the latest of which is "The Stress of Life," McGraw-Hill Book Company, with translations in Swedish, German and French. The book again emphasizes his belief that "Stress is a part of life. It is a natural by-product of all our activities; there is no more justification for avoiding stress than for shunning food, exercise or love." From his analysis of stress in animals, his colleagues, friends and himself, he evolved the motto: "Fight always for the highest attainable aim, but never put up resistance in vain."

When asked for his own stress-quotient for his apparently successful conformity to the stress of life, he replied, "I do work pretty hard, but I am not sure that this is due to any special strength or energy. In fact, it may be the reverse. I just seem to get so much fun out of my work that I do not have the strength and energy to stay away from it."

The Assembly will be honored by the presence of Dr. Malcom E. Phelps, President of the American Academy of General Practice, and one of its "founding fathers." The members of the Florida Chapter are deeply gratified that Dr. Phelps has found the time to meet with them and address them.

Other speakers will include Dr. George T. Harrell Jr., Dean of the University of Florida College of Medicine; Dr. Ellard M. Yow, Department of Internal Medicine, Baylor University; Dr. Franklin J. Evans, Legal Medicine, University of Miami School of Medicine; Dr. Robert A. Hingston, Professor of Anesthesiology, Western Reserve University; Dr. Donald A. Covalt, Associate Professor, Department of Physical Medicine and Rehabilitation, New York University College of Medicine; Dr. Edward F. Hartung, Associate Professor, Clinical Medicine, New York University Postgraduate Medical School; Dr. James Hughes, Professor of Pediatrics, University of Tennessee; Dr. W. D. Snively Jr., Medical Director, Meade Johnson Company, Instructor in Fluid Balance, St. Mary's Hospital, Evansville, Ind., and University of Colorado Graduate School.

Graduate Medical Education Diabetes Association Meeting Gainesville, October 24-26

The fifth annual meeting of the Florida Clinical Diabetes Association will be held October 24, 25 and 26, 1957, in Gainesville at the Medical Sciences Building of the College of Medicine of the University of Florida. Dr. Edward R. Smith, President, urges all members to make reservations early for motel or hotel accommodations and also to send for tickets to the football game between Louisiana State University and the University of Florida on Saturday, October 26 at 2:30 p.m. Contact the Division of Postgraduate Education of the College of Medicine of the University of Florida for assistance.

Dr. William R. Jordan of the Medical College of Virginia, Richmond, Va., and Dr. Sidney Davidson of Lake Worth are among the speakers. The program will include lectures on diabetes mellitus and other phases of metabolism.

Cleft Palate Seminar Miami, November 8-9

The Nemours Foundation and the South Florida Cleft Palate Clinic, in cooperation with the Florida Crippled Children's Commission and the University of Miami School of Medicine, are pleased to announce an event of major interest to those concerned with the care of cleft palate patients.

The concept of the team approach for the proper habilitation of the cleft palate child has gained wide acceptance in recent years. This trend is partially due to research and teaching by the University of Illinois Cleft Palate Center. Four members of the staff of the Illinois Cleft Palate Center will present a seminar on "Modern Concepts in Multi-Professional Planning for Cleft Palate Patients" at the McAllister Hotel in Miami on Friday and Saturday, November 8 and 9, 1957. The registration fee of $10 will include a dinner on Friday night.

The speakers will be Edward Lis, M.D., pediatrician and Director of the Cleft Palate Center; Samuel Pruzansky, D.D.S., orthodontic consultant and Coordinator of Research; Herbert Koepp-Baker, Ph.D., speech pathologist and original organizer of the Center; Herbert Kobes, M.D., Director of the University of Illinois Division of Services for Crippled Children. The formal pro-

gram will be presented all day Friday and on Saturday morning. Saturday afternoon will be devoted to discussion and the presentation of any patients that members of the audience wish to bring for consultation. Members of all professions concerned with the cleft palate patient are cordially invited to participate.

For additional information, contact Dr. George Balber, Chairman of the South Florida Cleft Palate Clinic, 515 N. E. 15th St., Miami 32, or Dr. William R. Stinger, Director of the Florida Crippled Children's Commission, Box 1028, Tallahassee.

Fifth International Congress of Internal Medicine

The International Society of Internal Medicine has announced that its Fifth International Congress of Internal Medicine will be held at the new Sheraton Hotel in Philadelphia on April 24-26, 1958. This will be the first meeting of the society outside of Europe. In making the announcement, the International Society's President, Sir Russell Brain, who is also President of the Royal College of Physicians of London, said, "The Executive Committee of the Society has chosen the United States for its Fifth Congress in response to an invitation extended by the American College of Physicians and with the objective of securing greater American participation in its deliberations and of allowing foreign members, at first hand, to learn more about American developments in the medical sciences."

The previous Congresses, at two year intervals, were held in Paris, London, Stockholm and Madrid. At those meetings, however, the United States, as well as many other nations throughout the world, was represented. The present membership of the society, including 48 nations, is about 3.000.

This society, the only international one embracing all aspects of internal medicine, was organized in 1948 and largely at the instigation of Professor Nanna Svartz of Stockholm, the physician to the King of Sweden. It was her contention that the various branches of internal medicine should be kept in touch with one another, as is accomplished in North America by the American College of Physicians, and that this should be done on a truly international basis. She also emphasized the importance of purely personal and nonpolitical contacts among physicians of different countries.

The objectives of the society, as stated in its Statutes, are "to promote scientific knowledge in internal medicine, to further the education of the younger generation and to encourage friendship among physicians of all countries." The members are "specialists in internal diseases, acknowledged as such and accepted by the appropriate national societies of internal medicine."

The first president of the International Society was Professor A. Gigon, of Basel, Switzerland. He was succeeded, in 1952, by Dr. Svartz and she, by Sir Russell Brain, the President of the Royal College of Physicians of London.

At the Philadelphia Congress it is planned, through lectures and panels, to analyze medical achievements of worldwide significance, to evaluate certain apparent problems and to chart courses of action designed to enhance technical knowledge and to aid in the continuing war against disease. At the same time, the plan includes such social and cultural activities as will tend to promote cooperation, friendship and mutual understanding among physicians and peace among their countries.

The 1958 Annual Session of the American College of Physicians will occur in Atlantic City, April 28 to May 2, immediately following the Philadelphia Congress. The members of the Congress are invited to attend all the scientific programs and extensive exhibits, the foreign members on a purely courtesy basis.

T. Grier Miller, M.D., Philadelphia, is the President of the Congress; Edward R. Loveland, F.A.C.P. (Hon.), is the Secretary-General; and Mr. J. Malcolm Johnston, Philadelphia, the Treasurer.

Medical District Meetings

Dr. S. Carnes Harvard, of Brooksville, Chairman of the Council of the Florida Medical Association, has announced that the 1957 Medical District Meetings will be held the last four days of October—in Panama City, Oct. 28; in Clearwater, Oct. 29; in Orlando, Oct. 30, and in Fort Pierce, Oct. 31.

Dr. Harvard and his district councilors are arranging an outstanding scientific program which is scheduled for publication in the October issue of The Journal.

Each member of the Association is urgently requested to be present at the meeting in his district.

STATE BOARD OF HEALTH

Asiatic Influenza

At the present time (Aug. 5, 1957) confirmed outbreaks of Asiatic influenza have been reported from nine states in the United States. To date none have been reported in Florida, and the Central Laboratory of the State Board of Health has examined only 13 specimens from suspect cases, in three of which there was evidence of exposure to the Asian strain of influenza A virus. Due to the delay between preparation of these reports and publication, this situation may be considerably changed by September. A misstatement due to elapsed time in publication occurred in this column in the August issue of The Journal when a report stated that "none of the presently available influenza vaccines confer protection against this strain of influenza virus." At the time of preparation of this present report, one manufacturer is marketing a polyvalent influenza vaccine containing the Asian strain of influenza A, and five other manufacturers are in various stages of production of either monovalent or polyvalent influenza vaccine containing the Asian strain.

It is expected, however, that only four million doses will be ready by mid-September for civilian use, and production goals call for 60,000,000 doses by February, at which time the anticipated epidemic of Asian influenza may well have already occurred.

Because of these limited supplies, it is recommended that physicians, nurses, hospital employees and other health personnel whose services are imperative for the care of the sick be immunnized. Also, if sufficient vaccine becomes available, other key persons in essential community services and persons with chronic debilitating disease could be given preference for influenza immunization.

The State Board of Health has no plans at present for purchase or distribution of influenza vaccine through County Health Departments.

There would seem to be only the advantage of less expense in immunizing with a monovalent vaccine, as compared with a polyvalent vaccine. The recommended dosage for adults is 1 cc. subcutaneously. Preliminary studies have indicated that the intradermal method using 0.1 cc. is not practical with the present influenza vaccine. Vaccine protection is estimated at 70 per cent; it begins 10 to 14 days after injection and remains for six months to one year. None of the influenza vaccines available for civilian use prior to July 15, 1957, contained the Asian strain of virus.

EMORY UNIVERSITY SCHOOL OF MEDICINE
Atlanta, Georgia
Announces
SIX DAYS
of
CARDIOLOGY
(January 13-18, 1958)

Major Problems of Heart Disease will be discussed by Members of the Emory University Faculty and the following visitors:

A. Carlton Ernstene, M.D., Chairman, Division of Medicine, Cleveland Clinic, Cleveland, Ohio
Dwight E. Harken, M.D. Assistant Clinical Professor of Surgery, Harvard Medical School; Surgeon, Peter Bent Brigham Hospital; Chief of Department of Thoracic Surgery, Mount Auburn and Malden Hospitals, Boston, Mass.
Helen B. Taussig, M.D., Associate Professor of Pediatrics, The Johns Hopkins University School of Medicine; Director of the Children's Heart Clinic of the Harriet Lane Home, The Johns Hopkins Hospital, Baltimore, Md.
Eugene A. Stead, M.D., Professor and Chairman, Department of Medicine, Duke University School of Medicine, Durham, N. C.
Ancel B. Keys, M.D., Professor of Medicine, University of Minnesota; Director of the Laboratory of Physiological Hygiene, University of Minnesota School of Public Health, Minneapolis, Minn.
Edward S. Orgain, M.D., Professor of Medicine, Duke University School of Medicine; Director, Cardiovascular Disease Service, Duke Hospital, Durham, N. C.
E. Grey Dimond, M.D., Professor and Chairman of the Department of Medicine; Director of the Cardiovascular Laboratory, University of Kansas Medical Center, Kansas City, Kansas.
Gene H. Stollerman, M.D., Associate Professor of Medicine, Northwestern University, Chicago, Ill.

Tuition fee: $100.00
Write: Postgraduate Teaching Program, Emory University School of Medicine, 69 Butler Street, Atlanta 3, Georgia

BIRTHS, MARRIAGES AND DEATHS

Births

Dr. and Mrs. Apostolos A. Kartsonis, of Jacksonville, announce the birth of a daughter, Mary Pia, on May 30, 1957.

Marriages

Dr. Horace A. Day, of Orlando, and Miss Irene R. Ziegler were married in Orlando on July 14, 1957.

Deaths—Members

Bechman, George E., Jacksonville	March 27, 1957
Smith, James A., Sanford	February 19, 1957
Geiger, Hugh S., Kissimmee	July 6, 1957
Henry, Gordon F., West Palm Beach	April 25, 1957
Melvin, Alexis M., South Miami	June 18, 1957
Webb, Walter D., St. Augustine	June 11, 1957
Griffin, Thos. R., St. Petersburg	July 20, 1957
Merrick, Thomas D. Sr., Miami	July 9, 1957
Counts, Noah T., Cocoa	June 24, 1957
Driskell, Simon E., Jacksonville	July 5, 1957
Torbett, Ralph S., Tampa	April 28, 1957
Myers, Lucien E., Winter Park	July 11, 1957

Deaths—Other Doctors

Engle, Ralph Landis, Coral Gables	March 22, 1957
Weeks, Joseph C., Lake City	June 29, 1957
Faver, Henry M., Tampa	July 7, 1957
Caraker, Charles T. Jr., Perry	July 13, 1957

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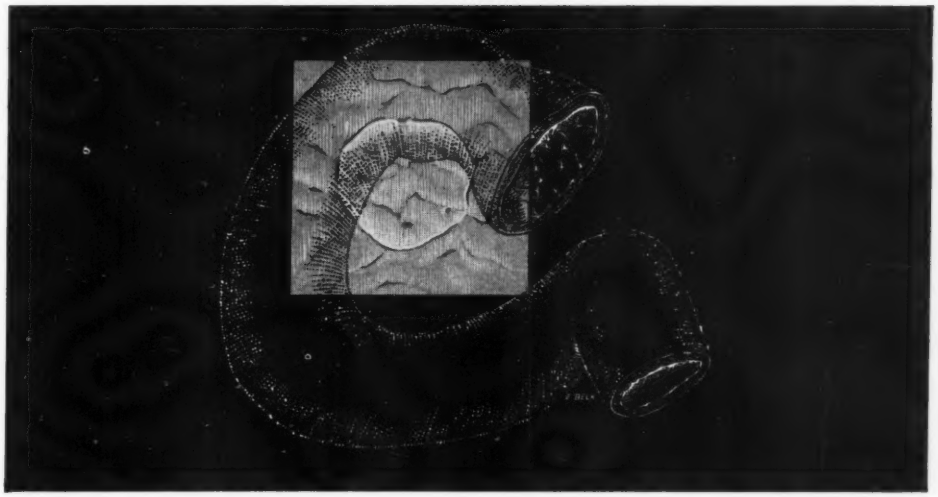

Pro-Banthine® provides rapid control of pain in peptic ulcer

In a two-year study[1] by Lichstein and coworkers, documented by intensive personal observation and by follow-up studies, Pro-Banthine (brand of propantheline bromide) often brought immediate relief of ulcer pain. Patients (11 per cent) who did not respond satisfactorily to Pro-Banthine therapy had "anxiety manifestations of psychoneurotic proportions."

In addition to frequent immediate symptomatic relief, Pro-Banthine reduces gastrointestinal motility and diminishes the secretion and acidity of gastric juice, all-important factors in the generation and aggravation of peptic ulcer.

These actions of Pro-Banthine and its demonstrated effectiveness in accelerating ulcer healing[2-5] mark the drug as a most valuable adjunct in the treatment of peptic ulcer.

The suggested initial dosage is one 15-mg. tablet with meals and two tablets at bedtime. An increased dosage may be necessary for severe manifestations and then two or more tablets four times a day may be prescribed.

G. D. Searle & Co., Chicago 80, Illinois.
Research in the Service of Medicine.

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1. Lichstein, J.; Morehouse, M. G., and Osmon, K. L.: Am. J. M. Sc. *232*:156 (Aug.) 1956.
2. Sun, D. C. H., and Shay, H.: Arch. Int. Med. *97*:442 (April) 1956.
3. Rafsky, H. A.; Fein, H. D.; Breslaw, L., and Rafsky, J. C.: Gastroenterology *27*:21 (July) 1954.
4. Schwartz, I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: Gastroenterology *25*:416 (Nov.) 1953.
5. Silver, H. M.; Pucci, H., and Almy, T. P.: New England J. Med. *252*:520 (March 31) 1955.

SEARLE

OTHERS ARE SAYING

Editorial

Medical ethics are basically the same as ethics for any other homologous group of humans working together in a common cause. They differ only in specialized particulars concerned with the service or activity which may be unique to a particular group, and of little or no concern to another. Ethics are principles. They represent generations of experience by trial and error. As such, they are blueprints for the practices and behavior of the individuals who make up the group. They distill the best of the past, sustain the needs of the present, and point to the possibilities for improvement of the future. The Golden Rule is the solid core of all ethics.

Like the law of gravity, the root principle of ethics cannot change. Interpretation and application inevitably vary to a greater or lesser degree from period to period in history. Variations come from special situations and changes of circumstance. Even when they occur after prolonged and careful consideration by adequate numbers representative of the group, they are dangerous. If a majority of the group agrees to change certain traditional interpretations, and promulgate a new plan or rule of application in order to adapt to a real and permanent change in society or environment, it may and should very definitely do so — *provided* the alteration does not extend the structure dangerously beyond the supporting foundation of essential basic principles.

This is the age of ballyhoo. Old P. T. Barnum would turn green with envy at any assistant publicity director of a third-rate cosmetics firm. Even the so-called "allied commercial organizations" who make apparatus and the newer physik have fallen under the spell and utter strange and often incomprehensible claims for their products. It's not surprising that many physicians seriously question the wisdom of abiding by old-fashioned rules for the preservation of dignity and rigid honesty. These virtues wax and wane in popularity. Now they are at rather low ebb throughout the world. We are told we should try to foster and certainly participate in a moral and religious rededication. If Medicine wishes to provide its expected share in leadership at this important period in our history, we should be slow to change our present rules for individual conduct and behavior. Liberalization at this time may well be misinterpreted as capitulation. The advantages of a more liberal interpretation on scores of thorny points are many and they tempt us mightily. At times, it seems we're engaged in a tough fight with one good arm tied behind us by our own foolish choice. We do have a most extraordinary birthright, however, and if you look close, some of those immediate advantages which might be gained look a bit like pottage! Let's be sure what we're trading for!

D. F. M.
The Bulletin, Dade County Medical Association
September, 1956.

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Please indicate one product advertised of particular interest to you in last two issues

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Name medical journals you read in order of interest: Indicate position you would give your State Medical Journal:

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PLEASE RETURN THIS PAGE TO

The Journal of the Florida Medical Association
P.O. Box 2411, 735 Riverside Ave.
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CLIP HERE

STATE NEWS ITEMS

The Emory University School of Medicine at Atlanta has announced a postgraduate course in cardiology for six days beginning January 13, 1958. Members of the Emory University faculty and eight eminent specialists from throughout the United States will discuss the major problems of heart disease. The tuition fee is $100. Information may be obtained by writing Postgraduate Teaching Program, Emory University School of Medicine, 69 Butler Street, Atlanta 3, Georgia.

Dr. Charlotte C. Maguire of Orlando has been in London, England, where she served as a delegate from the United States to the Seventh World Congress of the International Society for the Welfare of Cripples.

Dr. Kenneth A. Morris has been elected president of the Jacksonville Chapter of the American College of Surgeons. Dr. Samuel M. Day has been chosen president-elect and Dr. George M. Stubbs, secretary-treasurer. Councilors are Drs. Frederick J. Waas, E. Frank McCall and James G. Lyerly Sr. All the physicians are from Jacksonville.

Dr. Thomas E. McBride of Apopka has returned from a month in North Carolina where he attended the annual pediatric seminar held at Saluda and visited clinics at Winston Salem.

Dr. Frank C. Bone of Orlando has been appointed chairman of the Central Florida Medical Meeting Committee. The meeting is held annually at Orlando.

Dr. Henry I. Langston of Blountstown has been appointed Director of the Health Department of Gulf, Franklin and Wakulla counties with headquarters at Apalachicola.

Dr. Talmadge S. Thompson of Venice has been elected president of the Lions Club there. Dr. Thompson has been a member of the Club since its founding ten years ago.

The Council on Postgraduate Medical Education of the American College of Chest Physicians will present three Postgraduate Courses on Dis-

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eases of the Chest this fall: Hotel Knickerbocker, Chicago, Oct. 21-25; Park-Sheraton Hotel, New York, Nov. 11-15, and Ambassador Hotel, Los Angles, Dec. 9-13.

Tuition for each course is $75. The most recent advances in the diagnosis and treatment of chest diseases both medical and surgical will be presented. Information may be obtained from the Executive Director, American College of Chest Physicians, 112 East Chestnut St., Chicago 11, Ill.

Dr. Everett M. Harrison of Clearwater has been elected president of the Dunedin Rotary Club.

Dr. Herbert D. Kerman of Daytona Beach presented a paper on teletherapy at the recent Inter-American Symposium on the Peaceful Application of Nuclear Energy held at the Brookhaven National Laboratory, Upton, Long Island. The Symposium was attended by more than 200 scientists from the 21 American republics.

Dr. Jacob A. Glassman of Miami, Assistant Clinical Professor of Surgery at the University of Miami School of Medicine, addressed a medical meeting at Greenwood, S. C., late in August. Dr. Glassman's subject was "The Present Status of Thyroid Surgery."

The Forty-Third Clinical Congress of the American College of Surgeons will be held in Atlantic City, N. J., Oct. 14-18, 1957. Invited guests at the Congress will include medical students from 36 colleges located in the United States and Canada.

For the ninth year the Lake County Medical Society has conducted physical examinations and given immunizations for members of the National Guard of the county. This service by Society members is a part of the over-all public relations program. Dr. Thomas E. Langley of Eustis was in charge of the activity this year.

Members of the Society have also served as round up teams for conducting physical examinations among pre-school children with referrals to the individual's private physician for any needed corrections.

Drs. Alvan G. Foraker and Sam W. Denham of Jacksonville have been awarded three grants by the National Cancer Institute for research

when anxiety and tension "erupts" in the G. I. tract...

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projects. The first is for a new three year study of histochemical changes of aging in human ovaries. The other two are for continuation of present studies involving an investigation of cytochemical and cytophysical properties of intraepithelial carcinoma of the cervix and an experimental study of induced tumors in rat ovaries.

Drs. Sidney Stillman of Jacksonville and Ralph B. Spires of DeFuniak Springs have been reappointed to the State Board of Medical Examiners by Governor LeRoy Collins. A new appointment to the Board was Dr. Robert T. Spicer of Miami.

Dr. George T. Harrell Jr. of Gainesville, Dean of the College of Medicine, University of Florida, has been appointed a member of the Nuclear Development Commission by Governor LeRoy Collins.

Dr. Hugh A. Carithers of Jacksonville has been appointed by Governor LeRoy Collins to a four year term on the State Children's Commission.

Dr. Edward Jelks of Jacksonville has been reappointed to a new four term as a member of the Duval County Welfare Board.

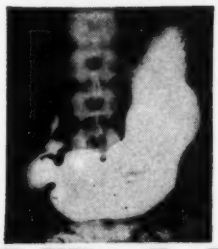
Dr. Chas. J. Collins of Orlando has been elected president of the State Board of Health succeeding Dr. Herbert L. Bryans of Pensacola who served as president for the past 17 years.

The annual meeting of the Southeastern Allergy Association will be held in Charleston, S. C., on November 1-2, according to announcement by Dr. Clarence Bernstein of Orlando, president.

A postgraduate course entitled "Recent Advances in Diagnosis and Treatment of Arrhythmias" has been scheduled at Mount Sinai Hospital of Greater Miami November 18-22. There will be evening sessions. The course will be conducted by Dr. Richard Langendorf of Chicago, Research Associate in Cardiovascular Diseases at Michael Reese Hospital.

Dr. Leland H. Dame of Winter Park has been elected to the Royal Society of Health in London, England.

when anxiety and tension "erupts" in the G. I. tract...
IN DUODENAL ULCER



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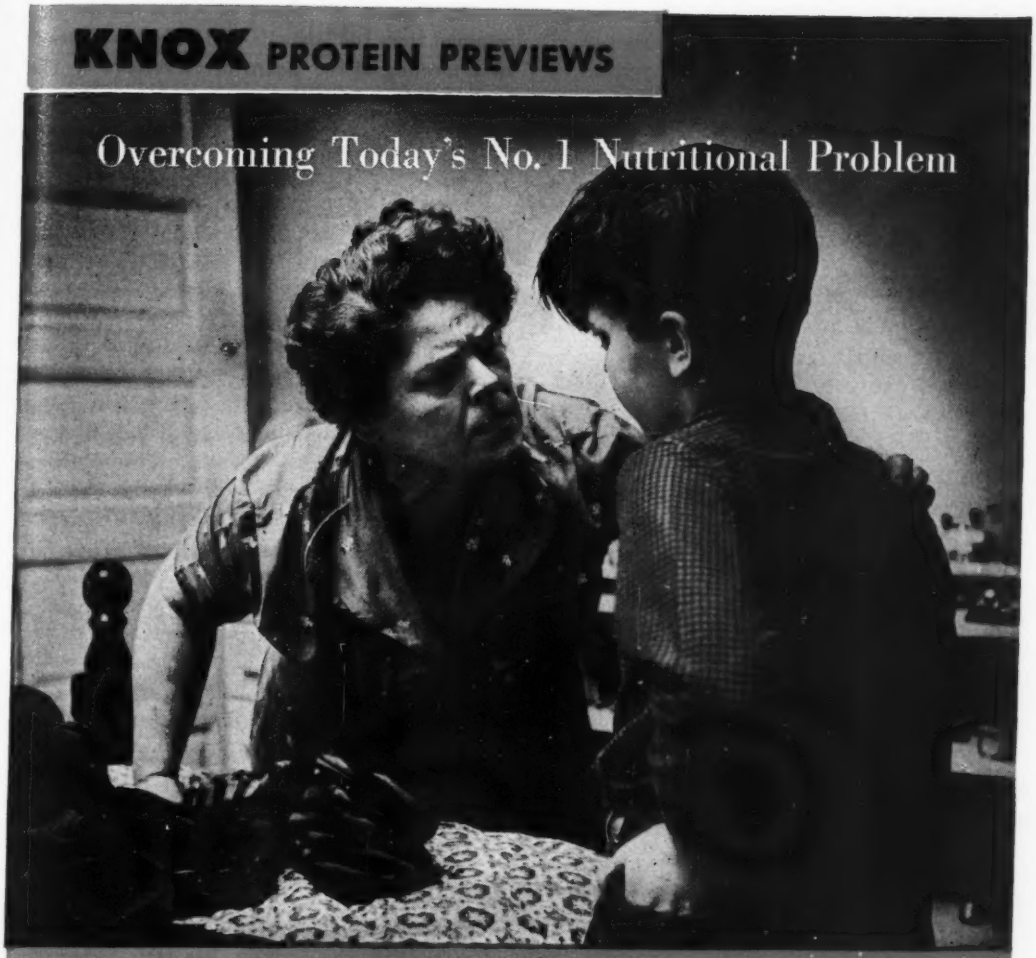
KNOX PROTEIN PREVIEWS



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4. More than six dozen appetizing, low-calorie recipes are described in the last fourteen pages of the diet booklet.

1. The Food Exchange Lists referred to are based on material in "Meal Planning with Exchange Lists" prepared by Committees of the American Diabetes Association, Inc., and The American Dietetic Association in cooperation with the Chronic Disease Program, Public Health Service, Department of Health, Education and Welfare.

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Johnstown, N. Y.

Please send me ..... dozen copies of the new, illustrated Knox Reducing booklet based on Food Exchanges.

Your Name and Address.

Dr. Francis W. Glenn of Coral Gables has returned from Indianapolis, Ind., where he attended a meeting of the Board of Governors of The American Fracture Association. Dr. Glenn is Regional Vice President of the Association.

The Eighteenth Annual Meeting of The American Fracture Association is being held in the Hotel Cortez, El Paso, Texas, Sept. 30-Oct. 2.

The meeting will be preceded and coordinated with The University of Texas Postgraduate School of Medicine, El Paso Division, which will meet Sunday, Sept. 29, at the El Pasco County Medical Society. The University of Texas Program is approved Category I by the American Academy of General Practice. The American Fracture meeting is approved Category II by the American Academy of General Practice.

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INTERNIST WANTED: Established certified internist desires associate. Florida license, certified or board eligible. Give full background in first letter. Write 69-224, P. O. Box 2411, Jacksonville, Fla.

WANTED: Specialist in Obstetrics and Gynecology with Florida license to associate with group in Dade-Broward area. Board man preferred. Write age, training, chronology of medical experience, references. Write 69-230, P. O. Box 2411, Jacksonville, Fla.

WANTED: Pediatrician or General Practitioner with special training in pediatrics to associate with group in Dade-Broward area. Florida license necessary. Write age, training, chronology of medical experience, references. Write 69-231, P. O. Box 2411, Jacksonville, Fla.

OBSTETRICIAN-GYNECOLOGIST: Board or board eligible, to associate with mixed group of three in a well established practice in town of 50,000 in central Florida. Write 69-233, P. O. Box 2411, Jacksonville, Fla.

INTERNIST: Certified or eligible. Wonderful opportunity to join group of well trained specialists. Modern, completely equipped building. Gastroenterology training asset but not essential. Excellent academic, financial, personal satisfaction. Beautiful area. Give full qualifications. Write 69-240, P. O. Box 2411, Jacksonville, Fla.

WANTED: General surgeon desires location alone or with associate. Board eligible, married, Florida license. Prefer smaller city. Write 69-238, P. O. Box 2411, Jacksonville, Fla.

NEW MEMBERS

The following doctors have joined the State Association through their respective county medical societies.

Archer. Lester, Homestead
Bozeman, James D., Orlando
Brown, John O. (Col.) Miami
Castleberry, Jesse W., Orlando
Chambers, Julius B., Winter Park
Creel, Frank L., Pensacola
Daniel, William R., Orlando
Dillard, Edgar A. Jr., Boynton Beach
DiLorenzo, Vincent J., Dundee
Doggett, Thaddeus H., Miami
Dunsworth, William P., Tampa
Ellenbogen, Nina C., Miami Beach
Epps, Earle W., Lakeland
Fomon, John J., Miami
Hicks, John H., Miami
Kass, Paul, North Miami
Kelly, Alexander J. Jr., Tampa
Levine, Oscar, Miami
Maxey, Edward S., Stuart
Mellion, Anson J., Jacksonville
Newhouser, Lloyd R., Miami
Samartino, Gaetano T., Coral Gables
Shorey, Winston K., Miami
Suarez, George J., Tampa
Turke, George J. Jr., Miami
Tyler, Lockland V. Jr., Pensacola
Walton, Thomas P. III, Tampa
Williams, R. Reche Jr. (Col.) Tampa
Ziffer, Albert M., Orlando

OBITUARIES

Guy Wilkerson Heath

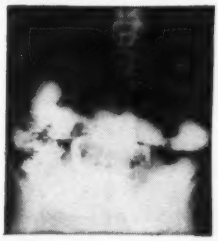
Dr. Guy Wilkerson Heath of West Palm Beach died in that city on Feb. 3, 1957. He was 62 years of age.

Dr. Heath was born in 1894. He received his medical training at the Tulane University School of Medicine in New Orleans, where he was awarded the degree of Doctor of Medicine in 1920. Upon completion of an internship and a residency at Macon Hospital in Macon, Ga., he engaged in the practice of medicine for a short time in Ruston, La., before coming to Florida.

In 1924, Dr. Heath was licensed to practice in Florida. He located in West Palm Beach and

when anxiety and tension "erupts" in the G. I. tract...

IN ILEITIS



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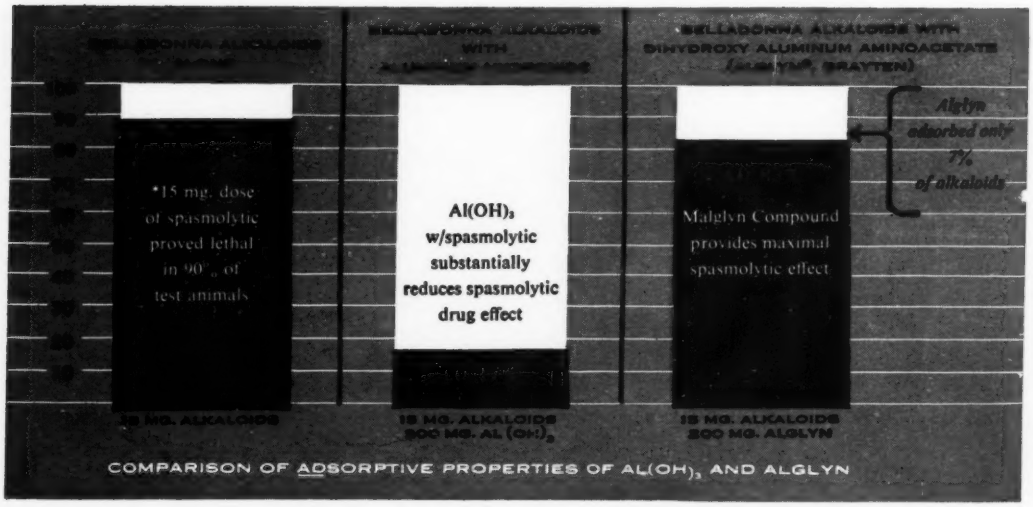
Here's a startling adsorption story involving simultaneous administration of antacid and spasmolytic drugs!


*15 mg. dose of spasmolytic proved lethal in 90% of test animals
Al(OH)3 w/spasmolytic substantially reduces spasmolytic drug effect
Malglyn Compound provides maximal spasmolytic effect
Alglyn adsorbed only 7% of alkaloids
15 MG. ALKALOIDS
15 MG. ALKALOIDS 300 MG. AL (OH)3
15 MG. ALKALOIDS 300 MG. ALGLYN
COMPARISON OF ADSORPTIVE PROPERTIES OF AL(OH)3 AND ALGLYN

The above laboratory study clearly indicates that the antacid ALGLYN, contained in the MALGLYN formula, does not materially interfere with the therapeutic effectiveness of its contained belladonna alkaloids. On the other hand, the marked *ad*sorptive properties of aluminum hydroxide renders its combination with belladonna alkaloids both uneconomical and therapeutically unreliable.

For both rapid and prolonged antacid effect, with consistently effective spasmolytic and sedative action, rely upon MALGLYN for treatment of peptic ulcer and epigastric distress.

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dihydroxy aluminum aminoacetate, N.N.R.	0.5 Gms
belladonna alkaloids (as sulfates)	0.162 MG.
phenobarbital	16.2 MG.

Also supplied: ALGLYN® (dihydroxy aluminum aminoacetate, N.N.R. 0.5 Gm per tablet). BELGLYN® (dihydroxy aluminum aminoacetate, N.N.R., 0.5 Gm. and belladonna alkaloids, 0.162 mg. per tablet).

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continued to practice there for 33 years. His specialty was obstetrics and gynecology. Through the years he practiced his profession faithfully and brilliantly as one of its outstanding and most revered members.

Dr. Heath was a member of the Palm Beach County Medical Society. Since 1925 he had held membership in the Florida Medical Association, and he was also a member of the American Medical Association and his specialty organizations.

Surviving are the widow, the former Miss Lillian Mosher, and one son, Guy W. Heath Jr.

Arthur McGugan

Dr. Arthur McGugan died in Denver, Colo., on May 28, 1957, at the age of 86 years.

Dr. McGugan was born in New Glasgow, Ontario, in 1870. He received his early education in Canada and was graduated from the University of Michigan Medical School in 1892.

Dr. McGugan specialized in Neurology. His career included serving as Head of the Department of Neurology of the University of Michigan Medical School; Assistant Physician and Clinical Director of the Michigan State Hospital; Professor of Neurology and Psychiatry at the University of Colorado School of Medicine; Special Lecturer in Neurology at the Boston University School of Medicine; Director of Special Research for the Department of Mental Disease of the State of Massachusetts; and Consultant in Neurosurgery to the American Expeditionary Force.

Dr. McGugan lived in Winter Park from 1935 to 1951. He was an honorary member of the Orange County Medical Society, the Florida Medical Association and the American Medical Association.

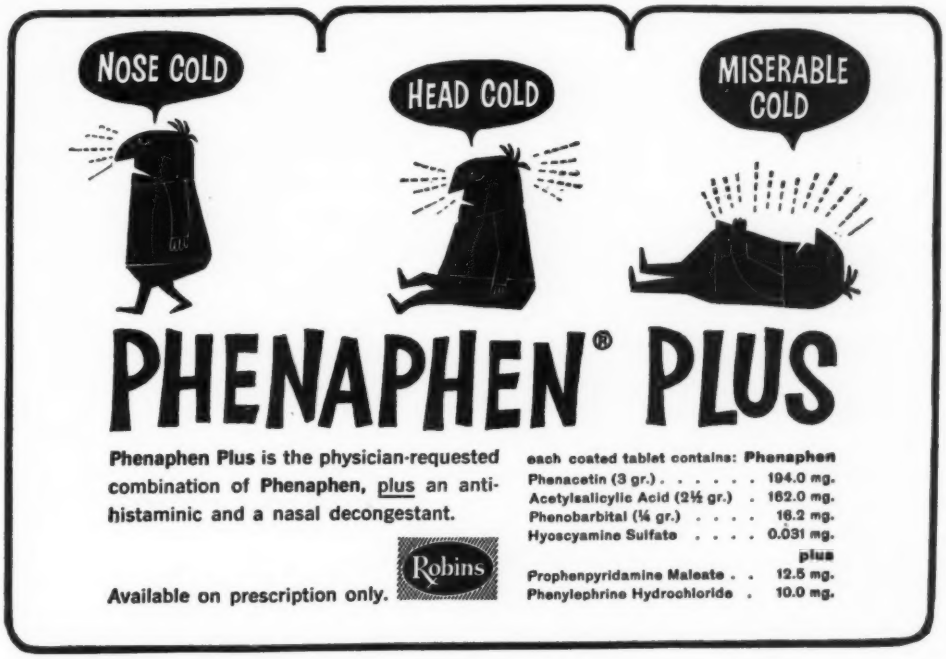
Surviving is his daughter, Mrs. John Hitch, of Denver.

Harrison G. Palmer

Dr. Harrison G. Palmer died at his home in St. Petersburg on Feb. 9, 1957. He was 80 years of age.

Born in Michigan in 1877, Dr. Palmer received his medical training in Chicago. He was awarded the degree of Doctor of Medicine in 1903 by the Bennett Medical College, now a part of

(Continued on Page 298)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Combined Estrogen-Androgen Therapy Proved 96% Effective in Preventing Postpartum Breast Engorgement[1]

Dual Steroid Approach also Successful in Osteoporosis

Of more than 4 million babies born in the United States this year, approximately 75 per cent will not be breast fed.[2] Combined estrogen-androgen therapy will effectively suppress lactation and prevent postpartum breast engorgement in these mothers.

Osteoporosis also ranks high on the list of present day medical problems because of the increasing older population.

In either condition, combined estrogen-androgen therapy produces a complementary metabolic response with little or no side effects.

In postpartum breast engorgement the rationale of therapy is explained as follows: During pregnancy, the high estrogen titer exerts an inhibitory effect on the anterior pituitary, thereby preventing the release of the lactogenic hormone, prolactin. Postpartum, the estrogen level drops off suddenly, and allows the release of previously inhibited prolactin which is now free to initiate the flow of milk. Sex hormones re-establish pituitary inhibition, thus arresting the lactating process.

In Fiskio's study,[1] "Premarin" with Methyltestosterone effectively relieved postpartum breast engorgement and suppressed lactation in 96.2 per cent of his group of 267 patients. Notably absent were breast abscesses, nausea, vomiting, excessive lochia, withdrawal bleeding or virilization. Menses were re-established after the normal six week period. The lack of mental depression during the puerperium was especially gratifying.

Osteoporosis results from impairment of osteoblastic activity, and gonadal hormone decline is possibly the most prevalent cause. Estrogen stimulates osteoblastic activity and increases calcium and phosphorus retention, while androgen exerts an anabolic or protein-forming action. Prognosis for bone recalcification is good, providing therapy is continued for extended periods. The possibility of side effects is minimized because the two hormones exert an opposing action on sex-linked tissue.

Estrogen and androgen as combined in "Premarin"• with Methyltestosterone provide a treatment of choice in osteoporosis.

Recommended Dosage: (Directions refer to *yellow* tablets.)

Postpartum breast engorgement — Short duration therapy — (one week) — 3 tablets every four hours for five doses — then 2 tablets daily for rest of week. "Step-down" therapy — (10 to 15 days) — 1st day — 4 tablets; 2nd day — 3 tablets; 3rd day — 2 tablets; thereafter, 1 tablet daily for 10 to 15 days. *It is important to start therapy as soon as possible after delivery.*

Osteoporosis: 2 tablets daily, for the first three weeks. Then 1 tablet daily thereafter. In the female, it is suggested that combined therapy be given in 21 day courses with a rest period of about one week between courses, and be continued for 6 to 12 months; following this period, the patient may be maintained with cyclic therapy employing "Premarin" Tablets alone.

Supplied in two potencies: *Yellow tablets* — each contains 1.25 mg. conjugated estrogens, equine ("Premarin") and 10 mg. methyltestosterone. *Red tablets* — each contains 0.625 mg. and 5 mg. respectively. Bottles of 100 and 1,000.

Bibliography: Available on request.

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Arcofac is effective in small doses and is reasonable in cost to the patient

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(Continued from page 293)

the Stritch School of Medicine of Loyola University in that city. Returning to his native state, he engaged in the general practice of medicine at Newport, Mich., for nearly 30 years.

In 1936, Dr. Palmer moved to St. Petersburg and continued in general practice there up to the time of his death. He was a familiar figure in local professional circles for more than two decades. He was a member of the First Presbyterian Church and held membership in the St. Petersburg Yacht Club.

Dr. Palmer was a member of the Pinellas County Medical Society, the Florida Medical Association and the American Medical Association. He also held membership in the Medical Association of Wayne County, Michigan.

Survivors include the widow, Mrs. Marian B. Palmer, of St. Petersburg; two daughters, Mrs. James B. Wilson, of St. Petersburg, and Mrs. Raymond J. Smith Jr., of Detroit, Mich.; a sister, Mrs. S. H. Finell, of Adrian, Mich.; and a granddaughter, Miss Brenda Wilson, of St. Petersburg.

BOOKS RECEIVED

Carcinoma of the Breast: *The Study and Treatment of the Patient.* By Andrew G. Jessiman, F.R.C.S., M.D., and Francis D. Moore, M.D. Pp. 135. Illus. 21. Price, $4.00. Boston, Little, Brown and Company, 1956.

"In the light of the present evidence, what is best for the patient?" This is the question posed by the authors in their Preface, and it is the question they seek to answer in this monograph. Time and further research, they say, will prove or disprove their contentions; meanwhile these serve as a rational basis for therapy based on knowledge available at this time.

The book represents an extension of a Progress Report initially published in the New England Journal of Medicine. It is written so as to present a consistent and integrated view of the study and care of patients suffering with carcinoma of the breast, in the light of current knowledge and research on the endocrine and metabolic aspects of the surgical care of that disease.

Clinical Memoranda on Economic Poisons. Prepared by Technical Development Laboratories, Technology Branch, Communicable Disease Center, P. O. Box 769, Savannah, Georgia. U. S. Department of Health, Education, and Welfare, Public Health Service, Bureau of State Services, Communicable Disease Center, Atlanta, Georgia. Pp. 78. Price, 30 cents. Public Health Service Publication No. 476. Washington 25, D. C., Superintendent of Documents, U. S. Government Printing Office, 1957.

The U. S. Public Health Service Communicable Disease Center, Technology Branch, Technical Development

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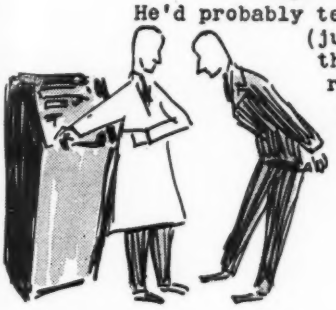

He'd probably show you how good a radiograph he gets every time

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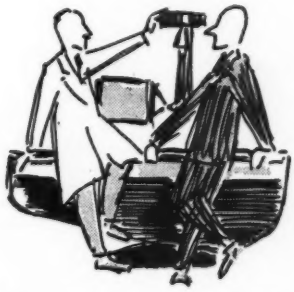
and there'd be no mistaking the light in his eye when it falls on the handsome big-name unit whose fine appearance adds so much to the impressiveness of his office.



P.S. Somewhere along the line the matter of price would come up ... he'd most likely comment on how little he paid to get so much. Or he might even be among those who rent their x-ray machine (Picker has an attractive rental plan, you know).

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Laboratories, P. O. Box 769, Savannah, Ga., advises that single copies of this bulletin will be supplied to physicians upon request as long as the supply lasts and that it is also available for purchase from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Much of the information contained in this bulletin on the human toxicology of pesticides has been gained through reports of human poisoning cases which are furnished the Technical Development Laboratories by cooperating physicians. Physicians encountering cases of human poisoning involving pesticides are invited to report them in accordance with instructions contained in the booklet.

The Riddle of Stuttering. By C. S. Bluemel, M.D. Pp. 142. Price, $3.50 casebound, $1.50 paper bound. Danville, Ill., The Interstate Publishing Co., 1957.

The problem of stuttering remains obscure despite the efforts of many earnest workers in the field of speech disorders. Like the common cold, it is a more complicated matter than first appears. There is not one cause of the speech disorder, this author explains, but there is a combination of at least three different causes. In the speech impediment itself, there are five major components, with several minor components. Thus the problem of stuttering is complex.

The author seeks an answer to the riddle of stuttering in the field of psychiatry. The approach is different from that of the academic speech therapist, and the conclusions and the therapy are quite different. Nevertheless, the goals of all workers in the field of speech disorders are identical — to assist the stutterer in attaining fluency. The author presents his conclusions here for the appraisal of the speech correctionist and the stutterer himself.

Four 12 inch long play Speech Therapy recordings are available at $3.00 each. All proceeds from the sale of the book and the recordings have been assigned by the author to the American Speech and Hearing Foundation.

Principles of Urology: *An Introductory Textbook to the Diseases of the Urogenital Tract.* By Meredith F. Campbell, M.S., M.D., F.A.C.S. Pp. 622. Illus. 319. Price, $9.50. Philadelphia, W. B. Saunders Company, 1957.

The twofold purpose of this book is to instruct the student in the broad fundamentals of Urology and to serve as a practical guide for the physician who is not a urologic specialist, as he encounters urologic problems. The author observes in the Preface that this is not intended to be a complete reference textbook nor an armchair urology, adding that the conceit implied by its writing is founded on an experience of 35 years in the teaching of Urology to both undergraduates and graduate students of medicine.

A brief consideration of urologic semantics is followed by a short syllabus of the more frequently employed urologic terms, and a brief review of the more important aspects of urogenital tract anatomy and physiology is included as an introductory refresher. Urologic symptoms and their potential significance as indications for special urologic examination are discussed, while the pathogenesis, clinical aspects, diagnosis and treatment of the more common urologic diseases are considered adequately, it is believed, to the needs of active daily general practice either in the office or at the bedside. Special effort has been made to instruct the reader in the requisites of physical and laboratory examination and diagnostic study up to the point of cystoscopic investigation or major urosurgical therapy. Minor urologic office procedures such as meatotomy and the passage of catheters and sounds are illustrated. A useful and stimulating inclusion in the book is a chapter of questions with page references to the answers.

Dr. Campbell, who is the author of several well known works on Urology, is Emeritus Professor of Urology, New York University; Consulting Urologist to Bellevue Hospital, New York, to Variety Childrens Hos-

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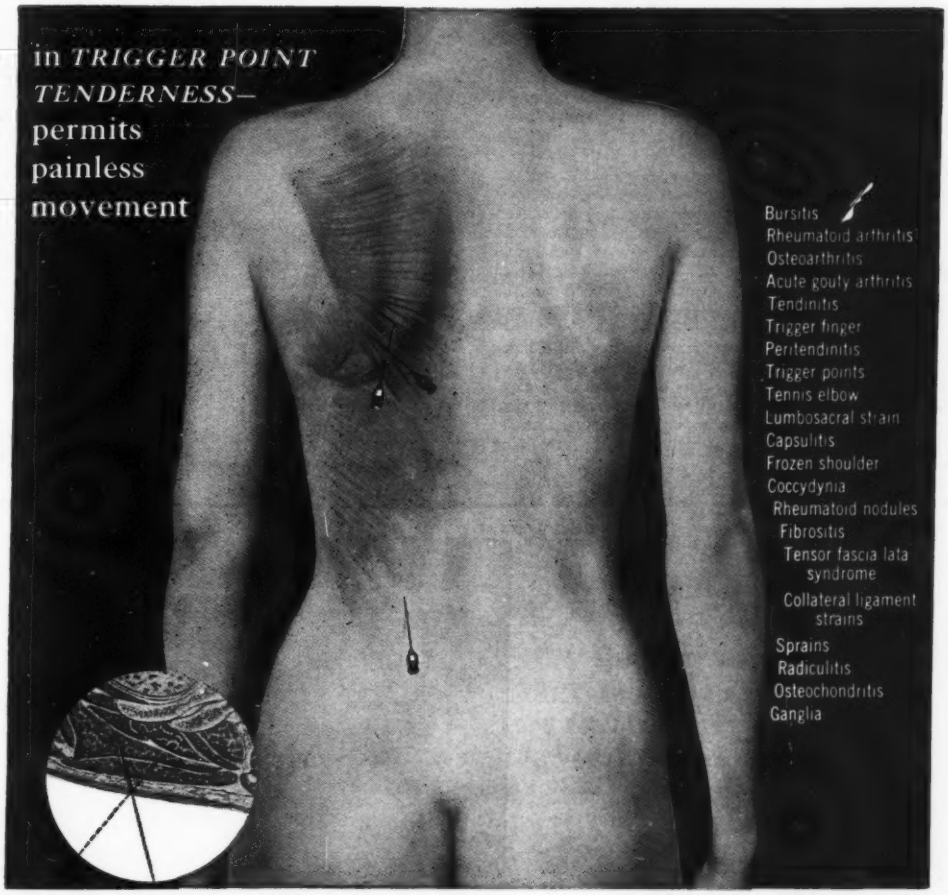

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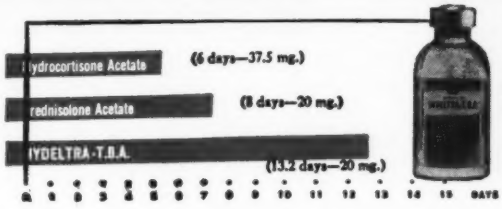
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pital, Miami, and to St. Francis Hospital, Miami Beach; and Lecturer in Urology; University of Miami School of Medicine.

General Urology. By Donald R. Smith, M.D. Pp. 328. Price, $4.50. Los Altos, Calif., Lange Medical Publications, 1957.

This volume represents the latest in a series of concise medical publications on clinical specialties. It is written for the medical student and the medical practitioner who has not specialized in urology but whose practice requires a working familiarity with the diagnostic and therapeutic technics available for the management of the genitourinary diseases and disorders. In order to serve both groups the author has combined both the practical and the theoretic aspects of his subject. In the preface he observes that although many serious urologic diseases excite few, if any, symptoms, most can be discovered by a medical examination which includes a P.S.P. renal function test, simple radiographic technics, and, above all, a careful urinalysis. He advises the reader to devote particular attention to the section on urinalysis, for a properly performed urinalysis is a very valuable clue to many urologic diagnoses. Wherever possible, excretory (intravenous) rather than retrograde urograms have been used as illustrations since they are available to the nonspecialist and are superior in many ways to retrograde studies. Selected references to the recent urologic literature have been appended to appropriate chapters for the guidance of those who wish to investigate further any specific disorder.

The author is Clinical Professor of Urology and Chairman of the Department of Urology of the University of California School of Medicine. His teaching ability combined with his wide selection of well chosen x-rays and the artist's excellent drawings make this a particularly useful book for the medical student and the practicing physician.

The Care of the Expectant Mother. By Josephine Barnes, M.A., D.M. (Oxon.), M.R.C.P. (London), F.R.C.S. (England), F.R.C.O.G. Pp. 270. Price, $7.50. New York, Philosophical Library, 1956.

During the last 30 years, the importance of regular and systematic examination and investigation of the pregnant woman has been recognized. The dramatic reduction in maternal and infant mortality during this period may be attributed in large measure to the improved care which mothers receive during pregnancy. This book has been written as a practical guide for all who undertake the management of pregnancy. Much of it is based on routine teaching given to medical students and pupil midwives in lectures, antenatal clinics and antenatal ward rounds. Its aim is to be simple and yet comprehensive. The three sections of this readable study deal with normal pregnancy, abnormal pregnancy, and diseases complicating pregnancy. There are numerous illustrations. The author, who is Obstetrician and Gynaecologist to Charing Cross Hospital and the Elizabeth Garrett Anderson Hospital, London, England, presents in this volume material of interest to the obstetrician, the general practitioner and the medical student.

Battle for the Mind. By William Sargant. Pp. 266. Price, $4.50. Garden City, N. Y., Doubleday & Company, Inc., 1957.

How can an evangelist convert a hard-boiled sophisticate? Why does a PW sign a "confession" he knows is false? How is a criminal pressured into admitting his guilt? Do the evangelist, the PW's captor, and the policeman use similar methods to gain their ends? These and other compelling questions are discussed in this book. The author spells out and illustrates the basic technic used by evangelists, psychiatrists and brain-washers to disperse the patterns of belief and behavior already established in the minds of their hearers, and to substitute

(Continued on Page 312)

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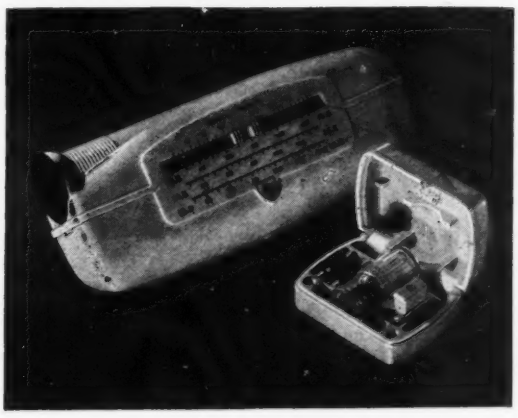

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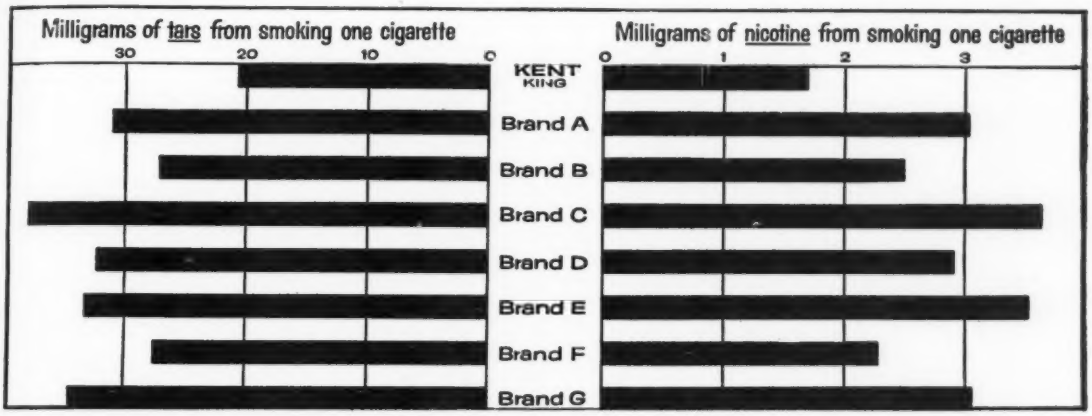

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(Continued from Page 302)

new patterns for them. There is much hopeful news here concerning the treatment of the mentally ill. Dr. Sargant makes clear the relation of the new "mind-drugs" to his topic and includes a chapter on how to avoid being indoctrinated and on how to consolidate changes of belief and behavior when desirable.

Dr. Sargant is now Physician in Charge of the Department of Psychological Medicine at one of England's oldest and best known medical schools. He is present President of the Section of Psychiatry of the Royal Society of Medicine, and also Registrar of the Royal Medico-Psychological Association. In 1938-1939 he spent a year on a Rockefeller Travelling Fellowship at Harvard, where he was Research Fellow in Psychiatry. In 1947-1948 he was invited to become Visiting Professor of Neuropsychiatry at Duke University. Altogether he has visited or worked in the United States on four different occasions in the past 18 years.

The Compleat Pediatrician: *For General Practitioners, Pediatricians, Interns and Students.* By W. C. Davison, M.D., and Jeana Davison Levinthal, M.D. Ed. 7. Pp. 272. Price, $4.25. Durham, N. C., Duke University Press, 1957.

This comprehensive summary of pediatric facts is an invaluable guide to practical, diagnostic, therapeutic and preventive pediatrics. In condensed form, it covers the diagnosis, treatment and prevention of disease, and the feeding, growth, development and guidance of children, emphasizing (1) the recognition of ill children, their diseases and what to do for them, and equally important, (2) routine child care (physical, mental and emotional) from conception through adolescence. This seventh edition has been written because of the great progress in antibiotics, anticonvulsants, antihistaminics, electrolytes and steroids, and the necessity of removing all of the now obsolete "formerly accepted pediatric facts."

In the preparation of this edition, the distinguished senior author was joined by his daughter as co-author. She is now an Instructor in Pediatrics at the University of Michigan School of Medicine. Dr. Davison, Professor of Pediatrics at Duke University School of Medicine, writes in the Preface: "This book represents an effort to compile and condense those practical pediatric facts, which though essential, usually slip from memory; it is an attempt to combine in one volume the information usually found in several, which should be consulted for more complete study. It is hoped that this book may serve as a ready reminder to be carried, like a stethoscope, in a physician's pocket or bag to jog his memory on possibilities, but it cannot do his thinking for him. Memory is treacherous, a mere reminder often makes a physician the master of a situation." It should be an essential for any practitioner caring for children, and has aptly been described as a world almanac of pediatrics.

Drugs in Current Use 1957. Edited by Walter Modell, M.D., F.A.C.P. Pp. 152. Price, $2.00. New York, Springer Publishing Company, Inc, 1957.

This is the third volume of an annually revised listing of drugs in common use. It includes well established drugs, some still on trial, old ones of questionable or purely traditional value but still likely to be encountered and, in addition, some drugs seen only as the cause of poisoning and some that are obviously doomed but which, for sentimental reasons, one is reluctant to discard. The purpose is to provide a concise statement of the principal pharmacologic characteristics of drugs in current use; major uses; physical properties; absorption; actions, both therapeutic and toxic; mode of administration; preparations; dosage; and specific antidotes against poisoning when these are available. In other words, the book provides a capsule account of the data essential to the sensible exploitation and safe handling of a drug. In most cases some special warnings are issued which draw attention not only to dangerous reactions and contraindications

but also to instability, special requirements for storage and for prevention of deterioration, and time limits before significant loss in potency or change in pharmacologic properties.

Short essays on pharmacologic groups of drugs are also included in the alphabetic listing. These essays deal with the problems of use, and actions and dangers characteristic of drugs as a group. Therapeutic groups of drugs in common use are also listed. Drugs are described under their official names wherever these have been established. Because of widespread usage, proprietary names and synonyms could not be ignored in a realistic presentation, the more common ones are usually included.

The Fight for Fluoridation. By Donald R. McNeil. Pp. 246. Price, $5.00. New York, Oxford University Press, 1957.

The American Dental Association, the American Medical Association, the American Public Health Association, the United States Public Health Service, the National Research Council, and almost every national scientific body are among more than 200 nationally known organizations which have endorsed fluoridation. Yet fluoridation remains a controversial subject, even in some of the cities where it has been adopted. In fact, the impact of the fluoridation struggle has had far-reaching effects on the social and political equanimity of hundreds of towns and cities in the nation. Local arguments are hot and heavy, and for years to come many communities will go to the polls to decide the question of fluoridation.

For this accurate and absorbing history of fluoridation, Donald R. McNeil, Associate Director of the Wisconsin State Historical Association, studied all the important published literature on the subject from 1916 to 1956 as well as original manuscripts and the correspondence of the leading figures. The research that preceded fluoridation and the struggles that have surrounded it as a public health measure are his story, one that suggests parallels with the fights for vaccination and pasteurization. It is a dramatic tale of trial and error, enthusiasm and skepticism, seriousness and humor, and, above all, success.

Ciba Foundation Symposium on Bone Structure and Metabolism. Editors for the Ciba Foundation, G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Cecilia M. O'Connor, B.Sc. Pp. 299. Illus. 121. Price, $8.00. Boston, Little, Brown and Company, 1956.

"Bone Structure and Metabolism" covers the subject from fundamental knowledge of anatomy and histology through biochemistry and physiology to clinical medicine. Here one can find much basic information on bone and, "rather surprisingly, much lamentation about our ignorance of many clinical problems." The book presents in full, with only a minimum of editing, the proceedings of a symposium on Bone Structure and Metabolism, which was among the small international conferences organized at the Ciba Foundation in London in 1955.

A partial table of contents includes: structure of bone from the anatomic to the molecular level; structure of bone salts; the histologic remodeling of adult bone, an autoradiographic study; fibrogenesis and the formation of matrix in developing bone; the mucopolysaccharides of bone; autoradiographic studies of the formation of the organic matrix of cartilage, bone, and tissues of teeth; in vitro uptake and exchange of bone citrate; the magnesium content of bone in hypomagnesaemic disorders of livestock; the mechanism of nutrition in bone and how it affects its structure, repair, and fate on transplantation; studies on the repair of fractures using ^{32}P; metabolic studies on vitamin D; variations in sensitivity to vitamin D; present knowledge of parathyroid function, with especial emphasis upon its limitations; vascularity of bone in relation to pathologic studies; some observations on experimental bone disease, and bone as a critical organ for the deposition of radioactive materials.

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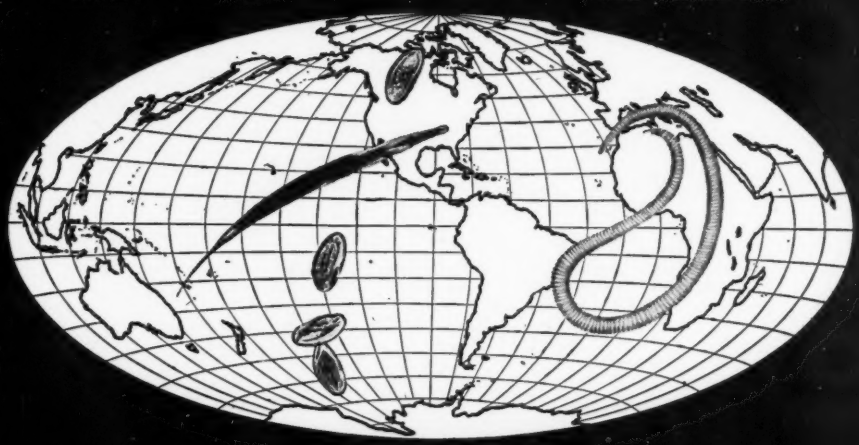

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BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.

The Official American Medical Association Book of Health. Edited by Dr. W. W. Bauer. Ed. 1. Pp. 320. Price, 35 cents. New York, Dell Publishing Company, Inc., 1957.

This pocket size book on health is a Dell first edition popularly priced and compiled for the laity from recent articles and editorials in Today's Health, of which Dr. W. W. Bauer is Chief Editor. The approach is through the modern concept of health having three separate components — the physical, the mental or emotional, and the spiritual. The book contains material from a wide variety of sources — medical, dental, public health, educational, sociological, governmental, and lay.

"It is not a solemn book," explains Dr. Bauer in the Introduction. "Health, in our view, is not a solemn subject. It is — or ought to be— a happy one. But physical health alone does not assure happiness. With emotional balance and spiritual strength added, however, an individual can be happy even in adversity. We have tried to select material for happy people. We have included some light material which may entertain you and help you to keep your perspective on health; perhaps it will also serve to brighten a dark moment in a dreary day. As you read the pages which follow, we hope you will come to regard good health as a means to a fuller, richer life, and not as an end in itself." Certainly the laity will profit by reading this comprehensive little volume.

Liver, Biliary Tract and Pancreas, Part III of Volume 3, Digestive System, The Ciba Collection of Medical Illustrations. By Frank H. Netter, M.D. Pp. 165. Color plates 133. Price, $10.50. Summit, N. J., Ciba Pharmaceutical Products, Inc., 1957.

Publication of the third volume in the estimated nine volume, 20 year project to create for medicine the first definitive collection of authentic, full color illustrations of every significant segment of the human body and diseases that affect it has just been announced by Ciba Pharmaceutical Products, Inc. The artist for the entire series is the country's leading medical illustrator, Dr. Frank H. Netter of Norwich, Long Island.

Volume 3 is being developed in three parts. "Liver, Biliary Tract and Pancreas," now available, is actually Part III of this third volume. The decision to publish this section before Parts I and II was based on a survey which showed that the subject covered in Part III was second only to the nervous system in interest to the medical profession. The topics included in Part III are: normal anatomy of the liver, biliary tract and pancreas, signs and symptoms of disease, diagnostic tests, congenital anomalies, host/parasite relationships and blood supply to tissues. Part I will deal with the upper digestive tract; Part II with the lower digestive tract. Part III also incorporates a new feature designed to enhance the book's value as a versatile, multipurpose aid to clinicians, teachers, researchers and students, namely, literature references for the convenience of those wishing to follow up any topics discussed in the text.

According to Dr. Ernst Oppenheimer, editor of The Ciba Collection, all anatomic details, "whether essential or bordering on the trivial," are recapitulated by Dr. Netter. "All available texts and other publications, particularly the pertinent literature of the past 25 years, are read, checked, rechecked and compared." All volumes in the Collection are sold at cost as a service to the medical profession and medical students.

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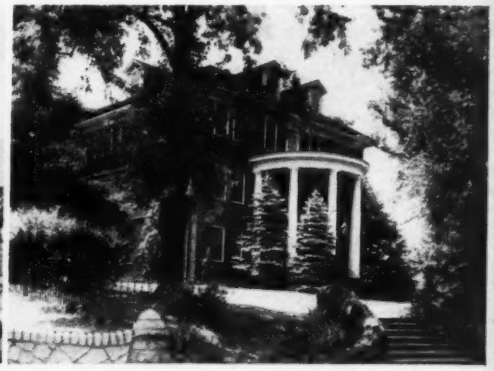

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